
From: PFR Event <pfpreventcreation@fda.hhs.gov>
To: Cleary, Michael *; HQ Pet Food Report Notification; B6
Sent: 5/20/2019 2:56:40 PM
Subject: Taste of the Wild Pacific Salmon Grain Free: Darcy Adin - EON-388244
Attachments: 2067171-report.pdf

A PFR Report has been received and PFR Event [EON-388244] has been created in the EON System.

A "PDF" report by name "2067171-report.pdf" is attached to this email notification for your reference.

Below is the summary of the report:

EON Key: EON-388244

ICSR #: 2067171

EON Title: PFR Event created for Taste of the Wild Pacific Salmon Grain Free, Red Barn Bully sticks and slices, Sam's Club Chicken Jerky, Nubs Chicken Treats, Nudges Chicken Jerkey; 2067171

AE Date	03/19/2019	Number Fed/Exposed	1
Best By Date		Number Reacted	1
Animal Species	Dog	Outcome to Date	Stable
Breed	American Pit Bull Terrier		
Age	7.5 Years		
District Involved	PFR-Florida DO		

Product information

Individual Case Safety Report Number: 2067171

Product Group: Pet Food

Product Name: Taste of the Wild Pacific Salmon Grain Free, Red Barn Bully sticks and slices, Sam's Club Chicken Jerky, Nubs Chicken Treats, Nudges Chicken Jerkey

Description: B6 presented to UF Cardiology for evaluation of a heart murmur and arrhythmia discovered by his primary care veterinarian. B6 had a recent history of a progressively worsening cough. On ECG, B6 had intermittent ventricular premature complexes (right bundle branch block). B6 was diagnosed with mitral regurgitation with systolic dysfunction.

Submission Type: Initial

Report Type: Adverse Event (a symptom, reaction or disease associated with the product)

Outcome of reaction/event at the time of last observation: Stable

Number of Animals Treated With Product: 1

Number of Animals Reacted With Product: 1

Product Name	Lot Number or ID	Best By Date
Sam's Club Chicken Jerky		
Nudges Chicken Jerkey		
Red Barn Bully sticks and slices		
Nubs Chicken Treats		

Sender information

Darcy Adin
2015 SW 16th Ave
2015 SW 16th Avenue
Gainesville, FL 32608
USA

To view this PFR Event, please click the link below:

B6

To view the PFR Event Report, please click the link below:

B6

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From: PFR Event <pfpreventcreation@fda.hhs.gov>
To: [B6] HQ Pet Food Report Notification; [B6]
Sent: 10/8/2018 7:12:54 PM
Subject: Taste of the Wild Pacific Stream (dry): Lisa Freeman - EON-367849
Attachments: 2055795-report.pdf; 2055795-attachments.zip

A PFR Report has been received and PFR Event [EON-367849] has been created in the EON System.

A "PDF" report by name "2055795-report.pdf" is attached to this email notification for your reference. Please note that all documents received in the report are compressed into a zip file by name "2055795-attachments.zip" and is attached to this email notification.

Below is the summary of the report:

EON Key: EON-367849

ICSR #: 2055795

EON Title: PFR Event created for Taste of the Wild Pacific Stream (dry); 2055795

AE Date	02/02/2018	Number Fed/Exposed	2
Best By Date		Number Reacted	1
Animal Species	Dog	Outcome to Date	Stable
Breed	Doberman Pinscher		
Age	9.76 Years		
District Involved	PFR-New England DO		

Product information

Individual Case Safety Report Number: 2055795

Product Group: Pet Food

Product Name: Taste of the Wild Pacific Stream (dry)

Description: DCM and CHF diagnosed 2/2/18. Owner did not change diet after diagnosis. Just rechecked echo and no improvement. Taurine levels pending and will echo other dog in household on same diet to screen.

Submission Type: Initial

Report Type: Adverse Event (a symptom, reaction or disease associated with the product)

Outcome of reaction/event at the time of last observation: Stable

Number of Animals Treated With Product: 2

Number of Animals Reacted With Product: 1

Product Name	Lot Number or ID	Best By Date
Taste of the Wild Pacific Stream (dry)		

Sender information

Lisa Freeman
200 Westboro Rd
North Grafton, MA 01536
USA

Owner information

B6
USA

To view this PFR Event, please click the link below:

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From: Darcy Adin <dbadin@ncsu.edu>
To: Jones, Jennifer L
Sent: 2/27/2018 3:36:45 AM
Subject: blr0004.1.pdf
Attachments: blr0004.1.pdf

Hi Jennifer,

Here is **B4, B5**

The talk of grain free related DCM is exploding on our list serve. One question people have is related to data collection and I thought I would get your input. Should we as a group:

B5

Thanks for your thoughts!
Darcy

From: Freeman, Lisa <Lisa.Freeman@tufts.edu>
To: Jones, Jennifer L; Darcy Adin; Joshua A Stern; Fries, Ryan C [REDACTED] **B5, B6**
CC: Rotstein, David; Norris, Anne; DeLancey, Siobhan; Ceric, Olga
Sent: 4/27/2018 11:26:51 PM
Subject: DCM cases - proposed diet history
Attachments: diet history form 4-27-18 external.doc

Hi everyone

I'm attaching a proposed diet history form. [REDACTED] **B5**

Please let me know if you have any comments – I know this is probably more info than you'd like to collect but hopefully, this could help us identify patterns as well as provide information [REDACTED] **B5**

[REDACTED] **B5**

Once I get some input from you, I can make into a fillable form so we can send out electronically.

Our group also discussed a [REDACTED] **B5**

Thanks
Lisa

Lisa M. Freeman, DVM, PhD, DACVN
Professor
Cummings School of Veterinary Medicine
Friedman School of Nutrition Science and Policy
Tufts Clinical and Translational Science Institute
Tufts University
www.petfoodology.org

From: Jones, Jennifer L [mailto:Jennifer.Jones@fda.hhs.gov]
Sent: Friday, April 20, 2018 3:50 PM
To: Darcy Adin <dbadin@ncsu.edu>; Freeman, Lisa <Lisa.Freeman@tufts.edu>; Joshua A Stern <jstern@ucdavis.edu>; Fries, Ryan C <rfries@illinois.edu>; [REDACTED] **B5, B6**
Cc: Rotstein, David <David.Rotstein@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>; Ceric, Olga <Olga.Ceric@fda.hhs.gov>
Subject: RE: hold-call with Dr. Adin re: DCM cases
Importance: High

My apologies for the repeat email. After further internal discussion, in lieu of submitting Consumer Complaints, you can just email me a spreadsheet with the data.

Jennifer Jones, DVM
Veterinary Medical Officer
Tel: 240-402-5421



From: Jones, Jennifer L
Sent: Friday, April 20, 2018 1:19 PM
To: 'Darcy Adin' <dbadin@ncsu.edu>; Freeman, Lisa <lisa.freeman@tufts.edu>; Joshua A Stern <jstern@ucdavis.edu>; Fries, Ryan C <rfries@illinois.edu>; [REDACTED] **B5, B6**
[REDACTED] **B5, B6**

Cc: Rotstein, David <David.Rotstein@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>
Subject: RE: hold-call with Dr. Adin re: DCM cases

Thank you again for joining us on the call and providing the information about your cases. To help us catalogue and potentially act on these adverse events, please file an official consumer complaint. Instructions on how to report a pet food report can be found at: <https://www.fda.gov/AnimalVeterinary/SafetyHealth/ReportaProblem/ucm182403.htm>. The complaint can be submitted through the Safety Reporting Portal: <https://www.safetyreporting.hhs.gov>. You can attach documents already created that compile your case data. We will review the data and may contact you for possible follow-up.

In the meantime, if you have a dog with DCM on a grain free diet that dies or is euthanized, please do not dispose of the animal's body or any remaining food. Please submit an individual consumer complaint for that dog, and mention that you have been instructed to submit the report by Vet-LIRN. We will review the complaint for potential follow-up and may be able to offer a necropsy. I attached a copy of our Vet-LIRN network procedures that describe how we operate. I also included a version for animal owners.

Please email or call me with any questions. Thank you again for your time and expertise,
Jen

Jennifer Jones, DVM
Veterinary Medical Officer
Tel: 240-402-5421



From: Darcy Adin [mailto:dbadin@ncsu.edu]

Sent: Thursday, April 19, 2018 11:00 AM

To: Freeman, Lisa <lisa.freeman@tufts.edu>; Joshua A Stern <jstern@ucdavis.edu>; Fries, Ryan C <rfries@illinois.edu>;
B5, B6 Jones, Jennifer L

<Jennifer.Jones@fda.hhs.gov>

Cc: Rotstein, David <David.Rotstein@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>

Subject: Fwd: hold-call with Dr. Adin re: DCM cases

Dear Dr. Jones,

B5

Drs. B5, B6 Freeman B5, B6 Fries and Stern - the call details are in the forwarded email below.

Just a brief introduction for the FDA group:

B6

Dr. Lisa Freeman is a Professor of Clinical Nutrition at Tufts University, College of Vet Med

B5, B6

Dr. Ryan Fries is a Clinical Assistant Professor of Cardiology at Illinois, College of Vet Med

Dr. Josh Stern is an Associate Professor of Cardiology at UC Davis, College of Vet Med

Thank you everyone for making time in your schedule! I am looking forward to this.

Sincerely,

Darcy Adin

----- Forwarded message -----

From: **Jones, Jennifer L** <Jennifer.Jones@fda.hhs.gov>

Date: Thu, Apr 19, 2018 at 7:16 AM

Subject: hold-call with Dr. Adin re: DCM cases

To: "Rotstein, David" <David.Rotstein@fda.hhs.gov>, "Norris, Anne" <Anne.Norris@fda.hhs.gov>, "DeLancey, Siobhan" <Siobhan.Delancey@fda.hhs.gov>, Darcy Adin <dbadin@ncsu.edu>

-- Do not delete or change any of the following text. --

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--

Darcy B. Adin, DVM, DACVIM (Cardiology)
Clinical Assistant Professor of Cardiology
North Carolina State University
NC State Veterinary Hospital
1060 William Moore Drive
Raleigh, NC 27607
919-513-6032

From: PFR Event <pfpreventcreation@fda.hhs.gov>
To: Cleary, Michael *; HQ Pet Food Report Notification; B6
Sent: 12/5/2018 12:16:14 AM
Subject: Pure Vita Holistic Pet Foods Turkey and Sweet Potato Entree; EON-372846 B6
Attachments: 2059634-report.pdf

A PFR Report has been received and PFR Event [EON-372846] has been created in the EON System.

A "PDF" report by name "2059634-report.pdf" is attached to this email notification for your reference.

Below is the summary of the report:

EON Key: EON-372846

ICSR #: 2059634

EON Title: PFR Event created for Pure Vita Holistic Pet Foods Turkey and Sweet Potato Entree; 2059634

AE Date	05/05/2018	Number Fed/Exposed	2
Best By Date		Number Reacted	1
Animal Species	Dog	Outcome to Date	Stable
Breed	Retriever - Golden		
Age	6 Years		
District Involved			

Product information

Individual Case Safety Report Number: 2059634

Product Group: Pet Food

Product Name: Pure Vita Holistic Pet Foods Turkey and Sweet Potato Entree

Description: Sudden collapse witnessed in May 2018. Seen by veterinarian same day. Canine cardiologist diagnosed Dilated Cardiac Myopathy. Cardiologist strongly suspected grain free diet. Dog had been on grain free diet since 1 year of age. Prognosis 2 - 6 months.

Submission Type: Initial

Report Type: Adverse Event (a symptom, reaction or disease associated with the product)

Outcome of reaction/event at the time of last observation: Stable

Number of Animals Treated With Product: 2

Number of Animals Reacted With Product: 1

Product Name	Lot Number or ID	Best By Date
Pure Vita Holistic Pet Foods Turkey and Sweet Potato Entree		

Sender information

B6

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From: PFR Event <pfpreventcreation@fda.hhs.gov>

To: Cleary, Michael *; HQ Pet Food Report Notification B6

Sent: 12/4/2018 11:33:18 PM

Subject: The Honest Kitchen Grain Free Chicken Recipe: B6
EON-372839

Attachments: 2059627-report.pdf

A PFR Report has been received and PFR Event [EON-372839] has been created in the EON System.

A "PDF" report by name "2059627-report.pdf" is attached to this email notification for your reference.

Below is the summary of the report:

EON Key: EON-372839

ICSR #: 2059627

EON Title: PFR Event created for The Honest Kitchen Grain Free Chicken Recipe; 2059627

AE Date	06/01/2018	Number Fed/Exposed	
Best By Date		Number Reacted	1
Animal Species	Dog	Outcome to Date	Stable
Breed	Other Canine/dog		
Age	8 Years		
District Involved	PFR B6 DO		

Product information

Individual Case Safety Report Number: 2059627

Product Group: Pet Food

Product Name: The Honest Kitchen Grain Free Chicken Recipe

Description: June 2018- Seen by vet (dehydration) Around September 2018 - Seen by vet for rabies and batella shot September 2018 - Seen by Vet multiple times for dehydration, coughing and weekends. This went on for a month. Heart murmur detected. October 2018 - Seen by vet for dehydration, coughing. X-ray taken. Heart murmur confirmed. Placed on two heart medicines. Told she must take for remainder of her life.

Submission Type: Initial

Report Type: Adverse Event (a symptom, reaction or disease associated with the product)

Outcome of reaction/event at the time of last observation: Stable

Number of Animals Reacted With Product: 1

Product Name	Lot Number or ID	Best By Date
The Honest Kitchen Grain Free Chicken Recipe		

Sender information

B6

USA

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From: Rotstein, David </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=0A3B17EBFCF14A6CB8E94F322906BADD-DROTSTEI>
To: Carey, Lauren; Ceric, Olgica; Glover, Mark; Jones, Jennifer L; Nemser, Sarah; Palmer, Lee Anne; Peloquin, Sarah; Queen, Jackie L; Rotstein, David
Sent: 11/11/2018 1:55:59 AM
Subject: DCM cases- Lisa Freeman and/or Tufts-related- 11/10/18
Attachments: Earthborn grain free weight management dry: Lisa Freeman - EON-370708; Nutro Ultra adult dry dog food the superfood plate (chicken: Lisa Freeman - EON-370712; Pure Balance Salmon and Pea dry: Lisa Freeman - EON-370760; Rachel Ray peak open range recipe (beef: Lisa Freeman - EON-370720; Zignature trout & salmon dry: Lisa Freeman - EON-370715; Zignature Trout & Salmon Meal Limited Ingredient Formula Grain-Free Dry Dog Food: B6 EON-370762; Zignature trout and salmon dry: Lisa Freeman - EON-370713

David Rotstein, DVM, MPVM, Dipl. ACVP
CVM Vet-LIRN Liaison
CVM OSC/DC/CERT
7519 Standish Place

B6



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From: PFR Event <pfpreventcreation@fda.hhs.gov>
To: Cleary, Michael *; HQ Pet Food Report Notification; B6
Sent: 11/9/2018 10:28:41 PM
Subject: Nutro Ultra adult dry dog food the superfood plate (chicken: Lisa Freeman - EON-370712
Attachments: 2058680-report.pdf; 2058680-attachments.zip

A PFR Report has been received and PFR Event [EON-370712] has been created in the EON System.

A "PDF" report by name "2058680-report.pdf" is attached to this email notification for your reference. Please note that all documents received in the report are compressed into a zip file by name "2058680-attachments.zip" and is attached to this email notification.

Below is the summary of the report:

EON Key: EON-370712

ICSR #: 2058680

EON Title: PFR Event created for Nutro Ultra adult dry dog food the superfood plate (chicken lamb salmon); 2058680

AE Date	09/17/2018	Number Fed/Exposed	1
Best By Date		Number Reacted	1
Animal Species	Dog	Outcome to Date	Stable
Breed	Setter - Irish Red		
Age	11 Years		
District Involved	PFR B6 DO		

Product information

Individual Case Safety Report Number: 2058680

Product Group: Pet Food

Product Name: Nutro Ultra adult dry dog food the superfood plate (chicken, lamb, salmon)

Description: DCM and CHF diagnosed 9/17/18. Unclear if this is a diet-associated DCM because this is not boutique company or grain free but some properties of diet could be suspicious (lamb, rice bran, etc). Owner has fed this same food since dog was a puppy. Has since changed to Pro plan adult sensitive skin and stomach dry plus Science beef/barley canned. Plasma taurine B6 WB B6

Submission Type: Initial

Report Type: Adverse Event (a symptom, reaction or disease associated with the product)

Outcome of reaction/event at the time of last observation: Stable

Number of Animals Treated With Product: 1

Number of Animals Reacted With Product: 1

Product Name	Lot Number or ID	Best By Date
Nutro Ultra adult dry dog food the superfood plate (chicken, lamb, salmon)		

Sender information

Lisa Freeman
200 Westboro Rd
North Grafton, MA 01536
USA

Owner information

B6

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From: PFR Event <pfpreventcreation@fda.hhs.gov>
To: Cleary, Michael *; HQ Pet Food Report Notification; **B6**
Sent: 11/9/2018 11:12:45 PM
Subject: Rachel Ray peak open range recipe (beef: Lisa Freeman - EON-370720
Attachments: 2058685-report.pdf; 2058685-attachments.zip

A PFR Report has been received and PFR Event [EON-370720] has been created in the EON System.

A "PDF" report by name "2058685-report.pdf" is attached to this email notification for your reference. Please note that all documents received in the report are compressed into a zip file by name "2058685-attachments.zip" and is attached to this email notification.

Below is the summary of the report:

EON Key: EON-370720

ICSR #: 2058685

EON Title: PFR Event created for Rachel Ray peak open range recipe (beef venison lamb); 2058685

AE Date	10/06/2018	Number Fed/Exposed	1
Best By Date		Number Reacted	1
Animal Species	Dog	Outcome to Date	Stable
Breed	Boxer (German Boxer)		
Age	B6 Years		
District Involved	PFR B6 DO		

Product information

Individual Case Safety Report Number: 2058685

Product Group: Pet Food

Product Name: Rachel Ray peak open range recipe (beef, venison, lamb)

Description: DCM and arrhythmias diagnosed at time of GDV surgery so unclear if sepsis/post-op or true DCM. Had recheck echo 10/31/18 and still has DCM. Taurine pending. Owner has changed diet to Royal Canin Boxer

Submission Type: Initial

Report Type: Adverse Event (a symptom, reaction or disease associated with the product)

Outcome of reaction/event at the time of last observation: Stable

Number of Animals Treated With Product: 1

Number of Animals Reacted With Product: 1

Product Name	Lot Number or ID	Best By Date
Rachel Ray peak open range recipe (beef, venison, lamb)		

Sender information

Lisa Freeman
200 Westboro Rd
North Grafton, MA 01536
USA

Owner information

B6

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B6

All Medical Records

B6

Breed: Golden Retriever

B6

Species: Canine

Sex: Male
(Neutered)

Referring Information

B6

Initial Complaint:

Scanned Record

Initial Complaint:

New B6 DCM study

SOAP Text

B6

12:08PM

B6

Disposition/Recommendations

B6

B6

Cummings
Veterinary Medical Center
AT TULSA UNIVERSITY

B6

B6

Veterinarian:

B6

Visit ID:

B6

Species:	Canine
Breed:	Golden Retriever
Sex:	Male (Neutered)
Age:	B6 Years Old

Lab Results Report

Test	Results	Reference Range	Units
Troponin I Research - FHSA	B6	0 - 0.08	mg/dl

B4, B6

3/22

B6

Printed Friday

B6

B6

Best Available Copy

records

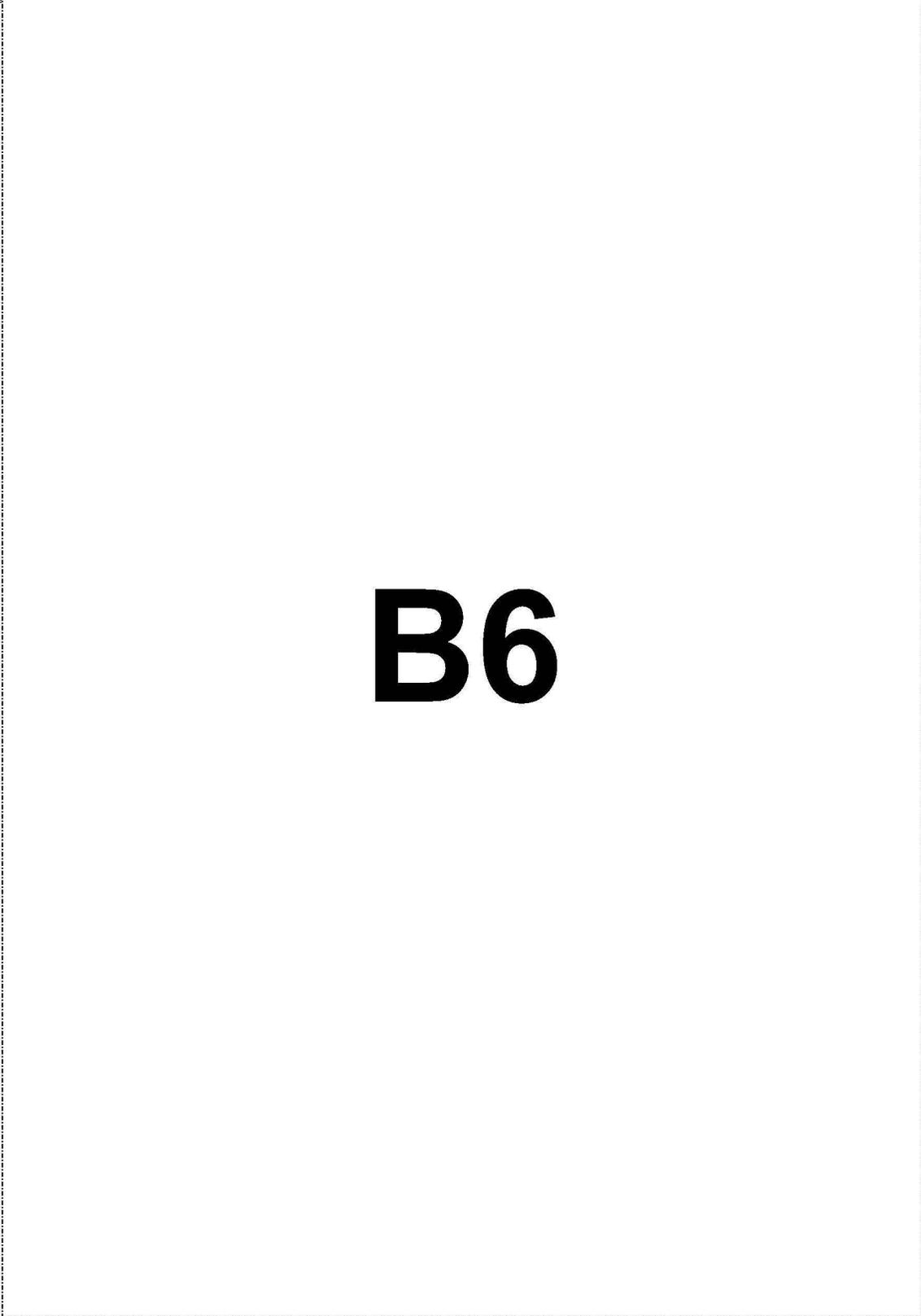


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11/8/2018

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CBC/Chem **B6**



Tufts Cummings School Of Veterinary Medicine
100 Woburn Road
North Grafton, MA 01133

DUPLICATE

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B6



Tufts Cummings School Of Veterinary Medicine
100 Waverton Road
North Grafton, MA 01133

DUPLICATE

B6

B6

Vitals Results

B6

11:32:13 AM

B6

B6

ECG from cardio

B6

B6

ECG from cardio

B6

B6

ECG from cardio

B6

B6

Patient History

B6

10:46 AM

12:36 PM

10:07 AM

10:48 AM

10:53 AM

11:32 AM

12:08 PM

12:18 PM

01:29 PM

01:30 PM

01:30 PM

01:30 PM

B6

From: PFR Event <pfpreventcreation@fda.hhs.gov>
To: Cleary, Michael *; HQ Pet Food Report Notification; **B6**
Sent: 11/9/2018 10:52:44 PM
Subject: Zignature trout & salmon dry: Lisa Freeman - EON-370715
Attachments: 2058683-report.pdf; 2058683-attachments.zip

A PFR Report has been received and PFR Event [EON-370715] has been created in the EON System.

A "PDF" report by name "2058683-report.pdf" is attached to this email notification for your reference. Please note that all documents received in the report are compressed into a zip file by name "2058683-attachments.zip" and is attached to this email notification.

Below is the summary of the report:

EON Key: EON-370715

ICSR #: 2058683

EON Title: PFR Event created for Zignature trout & salmon dry; 2058683

AE Date	11/07/2018	Number Fed/Exposed	3
Best By Date		Number Reacted	2
Animal Species	Dog	Outcome to Date	Stable
Breed	Retriever - Labrador		
Age	3 Years		
District Involved	PFR; B6 DO		

Product information

Individual Case Safety Report Number: 2058683

Product Group: Pet Food

Product Name: Zignature trout & salmon dry

Description: Older housemate diagnosed with DCM and CHF. Screening **B6** because he has been eating the same diet. Does not have clearcut DCM on echo but has reduced cardiac contractility. Taurine pending and owner has changed diet and started taurine supplementation

Submission Type: Initial

Report Type: Adverse Event (a symptom, reaction or disease associated with the product)

Outcome of reaction/event at the time of last observation: Stable

Number of Animals Treated With Product: 3

Number of Animals Reacted With Product: 2

Product Name	Lot Number or ID	Best By Date
Zignature trout & salmon dry		

Sender information

Lisa Freeman
200 Westboro Rd
North Grafton, MA 01536
USA

Owner information

B6

To view this PFR Event, please click the link below:

B6

To view the PFR Event Report, please click the link below:

B6

This email and attached document are being provided to you in your capacity as a Commissioned Official with the U.S. Department of Health and Human Services as authorized by law. You are being provided with this information pursuant to your signed Acceptance of Commission.

This email message is intended for the exclusive use of the recipient(s) named above. It may contain information that is protected, privileged, or confidential. Any dissemination, distribution, or copying is strictly prohibited.

The information is provided as part of the Federal-State Integration initiative. As a Commissioned Official and state government official, you are reminded of your obligation to protect non-public information, including trade secret and confidential commercial information that you receive from the U.S. Food and Drug Administration from further disclosure. The information in the report is intended for situational awareness and should not be shared or acted upon independently. Any and all actions regarding this information should be coordinated through your local district FDA office.

Failure to adhere to the above provisions could result in removal from the approved distribution list. If you think you received this email in error, please send an email to FDAREportableFoods@fda.hhs.gov immediately.

From: Rotstein, David </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=0A3B17EBFCF14A6CB8E94F322906BADD-DROTSTEI>
To: Carey, Lauren; Ceric, Olgica; Glover, Mark; Jones, Jennifer L; Nemser, Sarah; Palmer, Lee Anne; Peloquin, Sarah; Queen, Jackie L; Rotstein, David
Sent: 12/6/2018 3:20:09 AM
Subject: DCM cases 12/5/2018 2200
Attachments: Acana dog food. Varying diet/formulas over the past 3.5 years. [B6] EON-372923; Earthborn Meadow Feast dry: Lisa Freeman - EON-372804; Earthborn Meadow Feast dry: Lisa Freeman - EON-372828; Earthborn Meadow Feast dry: Lisa Freeman - EON-372831; Earthborn Meadow Feast dry: Lisa Freeman - EON-372834; Earthborn Meadow Feast dry: Lisa Freeman - EON-372842; Kirkland Signature Nature's Domain Salmon Meal & Sweet Potato Formula for Dogs; [B6] EON-372864; Pure Vita Holistic Pet Foods Turkey and Sweet Potato Entree; [B6] EON-372846; The Honest Kitchen Grain Free Chicken Recipe; [B6] [B6] EON-372839; Wellness Core Natural Grain Free Dry Dog Food Ocean Whitefish; [B6] [B6] EON-372851

David Rotstein, DVM, MPVM, Dipl. ACVP
CVM Vet-LIRN Liaison
CVM OSC/DC/CERT
7519 Standish Place
[B6] (BB)



This e-mail message is intended for the exclusive use of the recipient(s) named above. It may contain information that is protected, privileged, or confidential, and it should not be disseminated, distributed, or copied to persons not authorized to receive such information. If you are not the intended recipient, any dissemination, distribution, or copying is strictly prohibited. If you think you received this e-mail message in error, please e-mail the sender immediately at david.rotstein@fda.hhs.gov.

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To: Jones, Jennifer L; Palmer, Lee Anne; Queen, Jackie L; Carey, Lauren
CC: Reimschuessel, Renate; Ceric, Olgica; Nemser, Sarah
Sent: 5/4/2018 4:00:40 PM
Subject: RE: DCM cases-food-Iodine screening results

B5

From: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>
Date: May 4, 2018 at 10:03:44 AM EDT
To: Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>, Rotstein, David <David.Rotstein@fda.hhs.gov>, Queen, Jackie L <Jackie.Queen@fda.hhs.gov>, Carey, Lauren <Lauren.Carey@fda.hhs.gov>
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Jennifer Jones, DVM
Veterinary Medical Officer
Tel: 240-402-5421



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FYI-Iodine < 10ppm for the foods tested.

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8401 Muirkirk Road, G704
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new tel: 240-402-5421
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e-mail: jennifer.jones@fda.hhs.gov
Web: <http://www.fda.gov/AnimalVeterinary/ScienceResearch/ucm247334.htm>



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CC: Reimschuessel, Renate; Ceric, Olgica; Nemser, Sarah
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Yes. [redacted] **B5**

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I know dogs can synthesize taurine [redacted] **B5** [redacted] **B5**

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[redacted] **B5**

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One more nutritional deficiency-Taurine low based on AAFCO's Feline Minimum for Extruded foods. The dog consuming the product had a low whole blood Taurine level.

B5

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fax: 301-210-4685
e-mail: jennifer.jones@fda.hhs.gov
Web: <http://www.fda.gov/AnimalVeterinary/ScienceResearch/ucm247334.htm>



From: Jones, Jennifer L </o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0f6ca12eaa9348959a4cbb1e829af244-Jennifer.Jo>
To: Palmer, Lee Anne; Rotstein, David; Queen, Jackie L; Carey, Lauren
CC: Reimschuessel, Renate; Ceric, Olgica; Nemser, Sarah
Sent: 5/4/2018 4:12:45 PM
Subject: RE: DCM cases-food-Iodine screening results

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Yes. I'm going to

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CC: Reimschuessel, Renate; Ceric, Olgica; Nemser, Sarah
Sent: 5/4/2018 4:33:54 PM
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Attachments: Ingredients DCM reports per Jen's table v.2.docx

Just an initial quickie count of Jen's data in JMF

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From: Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>
Date: May 4, 2018 at 11:15:20 AM EDT
To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>, Rotstein, David <David.Rotstein@fda.hhs.gov>, Queen, Jackie L <Jackie.Queen@fda.hhs.gov>, Carey, Lauren <Lauren.Carey@fda.hhs.gov>
Cc: Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>, Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>, Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>
Subject: RE: DCM cases-food-Iodine screening results

B5

From: Jones, Jennifer L
Sent: Friday, May 4, 2018 10:35 AM

To: Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>; Queen, Jackie L <Jackie.Queen@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>
Cc: Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>
Subject: RE: DCM cases-food-Iodine screening results

Yes. [redacted] B5

Jennifer Jones, DVM
Veterinary Medical Officer
Tel: 240-402-5421



From: Palmer, Lee Anne
Sent: Friday, May 04, 2018 10:21 AM
To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>; Queen, Jackie L <Jackie.Queen@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>
Cc: Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>
Subject: RE: DCM cases-food-Iodine screening results

I know dogs can synthesize taurine [redacted] B5

B5

From: Jones, Jennifer L
Sent: Friday, May 4, 2018 10:04 AM
To: Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>; Queen, Jackie L <Jackie.Queen@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>
Cc: Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>
Subject: RE: DCM cases-food-Iodine screening results

There is no minimum for dogs...it is apparently a conditionally essential amino acid because dogs can make it from methione and cystine.

Jennifer Jones, DVM
Veterinary Medical Officer
Tel: 240-402-5421



From: Palmer, Lee Anne
Sent: Friday, May 04, 2018 10:01 AM
To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>; Queen, Jackie L <Jackie.Queen@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>
Cc: Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>
Subject: RE: DCM cases-food-Iodine screening results

Interesting... so the AAFCO minimum for cats is 0.1% DMB, [redacted] B5

[redacted] B5

From: Jones, Jennifer L

Sent: Friday, May 4, 2018 9:46 AM

To: Rotstein, David <David.Rotstein@fda.hhs.gov>; Queen, Jackie L <Jackie.Queen@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>

Cc: Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>

Subject: RE: DCM cases-food-Iodine screening results

B5

Jennifer Jones, DVM
Veterinary Medical Officer
Tel: 240-402-5421



From: Jones, Jennifer L

Sent: Monday, April 23, 2018 10:32 AM

To: Rotstein, David <David.Rotstein@fda.hhs.gov>; Queen, Jackie L <Jackie.Queen@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>

Cc: 'Reimschuessel, Renate (Renate.Reimschuessel@fda.hhs.gov)' <Renate.Reimschuessel@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>

Subject: DCM cases-food-Iodine screening results

FYI-Iodine < 10ppm for the foods tested

B5

B5

Jennifer L. A. Jones, DVM

Veterinary Medical Officer
U.S. Food & Drug Administration
Center for Veterinary Medicine
Office of Research
Veterinary Laboratory Investigation and Response Network (Vet-LIRN)
8401 Muirkirk Road, G704
Laurel, Maryland 20708
new tel: 240-402-5421
fax: 301-210-4685
e-mail: jennifer.jones@fda.hhs.gov
Web: <http://www.fda.gov/AnimalVeterinary/ScienceResearch/ucm247334.htm>



From: Andrea Fascetti <ajfascetti@ucdavis.edu>
To: Jones, Jennifer L
Sent: 3/25/2019 8:14:08 PM
Subject: Re: reference ranges for plasma amino acids

Hi Jen - We use the Delaney reference ranges - especially when looking at a complete AA analysis. Remember cysteine will be low unless samples are treated with SSA at the time of collection.

I hope this works.

Andrea

On Mar 25, 2019, at 2:57 PM, Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov> wrote:

Hi Andrea,
Do you have specific reference ranges for canine plasma amino acids in your lab? I looked at the Delaney et al paper but didn't know if there was a set range you used.
Thank you in advance,
Jen

Jennifer L. A. Jones, DVM

Veterinary Medical Officer
U.S. Food & Drug Administration
Center for Veterinary Medicine
Office of Research
Veterinary Laboratory Investigation and Response Network (Vet-LIRN)
8401 Muirkirk Road, G704
Laurel, Maryland 20708
new tel: 240-402-5421
fax: 301-210-4685
e-mail: jennifer.jones@fda.hhs.gov
Web: <http://www.fda.gov/AnimalVeterinary/ScienceResearch/ucm247334.htm>
<[image001.png](#)> <[image002.png](#)>

From: Rotstein, David </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=0A3B17EBFCF14A6CB8E94F322906BADD-DROTSTEI>
To: Carey, Lauren; Ceric, Olgica; Glover, Mark; Jones, Jennifer L; Nemser, Sarah; Palmer, Lee Anne; Peloquin, Sarah; Queen, Jackie L; Rotstein, David
Sent: 2/25/2019 11:19:34 AM
Subject: DCM 1 of 2 - Freeman Reports ONLY- 2/25/2019 0615
Attachments: Acana: Lisa Freeman - EON-380708; Earthborn Coastal Catch dry: Lisa Freeman - EON-380720; Fromm Large Breed Adult dry: Lisa Freeman - EON-380709; Poulin Pro Form Lamb and Rice Adult Maintenance Dry: Lisa Freeman - EON-380706; Purina One Smart Blend Lamb and Rice dry: Lisa Freeman - EON-380707; Solid Gold Mighty Mini Beef: Lisa Freeman - EON-380716; Taste of the Wild Sierra Mountain Dry: Lisa Freeman - EON-380714

David Rotstein, DVM, MPVM, Dipl. ACVP
CVM Vet-LIRN Liaison
CVM OSC/DC/CERT
7519 Standish Place

B6

(BB)



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Tufts Cummings School Of Veterinary Medicine

200 Westboro Road
North Grafton, MA 01536

DUPLICATE

Name/DOB: B6 (5/15/2015)	Sex: M	Provider: B6
Patient ID: B6	Age: 3	Order Location: V320559: Investigation into
Phone number:	Species: Canine	Sample ID: 1903080084
Collection Date: 3/8/2019 1:35 PM	Breed: Doberman Pinscher	
Approval date: 3/8/2019 3:27 PM		

Research Chemistry Profile - Small Animal (Cobas)

		Ref. Range/Males
TFRANK		
Glucose		67-135 mg/dL
Urea		8-30 mg/dL
Creatinine		0.6-2.0 mg/dL
Phosphorus		2.6-7.2 mg/dL
Calcium 2		9.4-11.3 mg/dL
Magnesium 2+	L	1.8-3.0 mEq/L
Total Protein		5.5-7.8 g/dL
Albumin		2.8-4.0 g/dL
Globulins		2.3-4.2 g/dL
A/G Ratio		0.7-1.6
Sodium		140-150 mEq/L
Chloride	L	106-116 mEq/L
Potassium		3.7-5.4 mEq/L
tCO2(Bicarb)		14-28 mEq/L
AGAP	H	8.0-19.0
NA/K		29-40
Total Bilirubin		0.10-0.30 mg/dL
Alkaline Phosphatase		12-127 U/L
GGT		0-10 U/L
ALT		14-86 U/L
AST		9-54 U/L
Creatine Kinase		22-422 U/L
Cholesterol	H	82-355 mg/dL
Triglycerides		30-338 mg/dl
Amylase		409-1250 U/L
Osmolality (calculated)	L	291-315 mmol/L

B6

Sample ID: 1903080084/1
REPRINT: Orig. printing on 3/8/2019 (Final)

Reviewed by: _____

B6

Patient: **B6**
B6 Male (Neutered)
Canine Doberman Pinscher
Patient ID: 320320

SURGERY REPORT

Date of report: 12/30/2018

Attending Clinician

B6

Primary Surgeon: **B6**

Date of procedure: **B6** BVSc

Secondary Surgeon: **B6** DVM DACVS

Procedure(s) performed: Right caudal maxillary mass excision

Report:

B6

Specimens obtained:

Right maxillary mass for histopathology

Cummings Veterinary Medical Center

AT TUFTS UNIVERSITY
Oncology Liaison: 508-887-4682

B6

Patient

Name:

B6

Signalment:

B6 years Old Black/Tan Male
(Neutered) Doberman Pinscher

Owner

Name:

Address:

B6

Patient ID:

320320

Contact Clinician:

B6

Alternate Clinician:

Student:

B6

Discharge Instructions

Appointment Date: 1/2/2019

Diagnosis:

1. Right maxillary soft tissue sarcoma–fibrosarcoma

Procedures:

1. Physical examination
2. Complete blood count
3. Blood chemistry profile
4. Urinalysis

Medications:

Dispense:

B6

Continue:

1. Continue all cardiac medications as prescribed by the Cardiology Service.

Diet:

Please continue feeding from the diet you have discussed with the Cardiology department.

B6

B6

B6

**Cummings Veterinary Medical Center offers a free support group for caregivers of companion animals with cancer. For more information please visit our website <http://vetmed.tufts.edu/oncology>*

Prescription Refill Disclaimer:

For the safety and well-being of our patients, your pet must have had an examination by one of our veterinarians within the past year in order to obtain prescription medications.

Ordering Food:

Please check with your primary veterinarian to purchase the recommended diet(s). If you wish to purchase your food from us, please call 7-10 days in advance (508-887-4629) to ensure the food is in stock. Alternatively, veterinary diets can be ordered from online retailers with a prescription/veterinary approval.

Clinical Trials:

Clinical trials are studies in which our veterinary doctors work with you and your pet to investigate a specific disease process or a promising new test or treatment. Please see our website: vet.tufts.edu/cvmc/clinical-studies

Case:

Owner:

Discharge Instructions

B6

B6
B6 Male (Neutered)
Canine Doberman Pinscher Black/Tan
Patient ID: 320320

Outside Prescription Log

1. Date: 1/2/19

Clinician: B6
Prescription: B6 caps #30: 1 cap PO q24h, 1 refill
Pharmacy sent to: B6 fill online
Completed by:
Origin of request:

2. Date: 1/9/19

Clinician: B6
Prescription: B6 Give 1 cap PO Q12hrs with food; 3 refills
Pharmacy sent to: B6
Completed by: B6
Origin of request:

3. Date:

Clinician:
Prescription:
Pharmacy sent to:
Completed by:
Origin of request:

4. Date:

Clinician:
Prescription:
Pharmacy sent to:
Completed by:
Origin of request:

5. Date:

Clinician:
Prescription:
Pharmacy sent to:
Completed by:
Origin of request:

6. Date:

Clinician:
Prescription:
Pharmacy sent to:
Completed by:
Origin of request:

7. Date:

Clinician:
Prescription:
Pharmacy sent to:
Completed by:
Origin of request:

8. Date:

Clinician:
Prescription:
Pharmacy sent to:
Completed by:
Origin of request:

9. Date:

Clinician:
Prescription:
Pharmacy sent to:
Completed by:
Origin of request:

10. Date:

Clinician:
Prescription:
Pharmacy sent to:
Completed by:
Origin of request:

B6

Patient

Name: B6
Signalment: B6 years Old Black/Tan Male
(Neutered) Doberman Pinscher

Owner

Name:
Address:

B6

Patient ID: 320320

Contact Clinician: B6 DVM, DACVS
Student: B6 V19

Discharge Instructions

Appointment date: 1/30/2019 10:04:21 AM

Medications: Continue all of B6 medications as previously prescribed by our cardiology and oncology departments.

History: B6 presented today for a consultation regarding his maxillary mass (fibrosarcoma). It was debulked with our department and sent for histopathology on B6 based on its composition, B6 was evaluated by our oncology department and metronomic chemotherapy (Cyclophosphamide) was initiated on 1/2/19. Since the surgery, you report that the mass has returned and growing larger.

Follow Up: Please email Dr. B6 when you are ready to schedule B6 surgery.
B6@tufts.edu

Please contact the Surgery Liaison @ (508) 887-4794 to arrange your next appointment.

If you have any problems or questions, please contact Dr. B6 DVM, DACVS as soon as possible. If it is an emergency, contact the emergency service @ (508) 887-4623.

Prescription Refill Disclaimer:

For the safety and well-being of our patients, your pet must have had an examination by one of our veterinarians within the past year in order to obtain prescription medications.

Ordering Food:

Please check with your primary veterinarian to purchase the recommended diet(s). If you wish to purchase your food from us, please call 7-10 days in advance (508-887-4629) to ensure the food is in stock. Alternatively, veterinary diets can be ordered from online retailers with a prescription/veterinary approval.

Clinical Trials:

Clinical trials are studies in which our veterinary doctors work with you and your pet to investigate a specific disease process or a promising new test or treatment. Please see our website: vet.tufts.edu/cvmc/clinical-studies

Case: B6 Owner: B6 Discharge Instructions

Cummings

Veterinary Medical Center

AT TUFTS UNIVERSITY
Cardiology Liaison: 508-887-4696

B6

Patient ID: 320320

B6 Canine
Years Old Male (Neutered)

Doberman Pinscher

Black/Tan BW: Weight (kg) 40.00

Cancelled

B6

Patient

Name:

B6

Signalment:

B6 Years Old Black/Tan Male
(Neutered) Doberman Pinscher

Owner

Name:

Address:

B6

Patient ID: 320320

Contact Clinician: B6 DVM, DACVS

Alternate Clinician: B6 DVM

Student: B6, V19

Discharge Instructions

Admit Date: B6 7:46:58 AM

Discharge Date: B6

Diagnosis:

1. Right maxillary oral fibrosarcoma

Procedures:

1. Tumor excision
2. von Willebrand's factor testing
3. Baseline bloodwork
4. Chest radiographs (x-rays)
5. Cardiology Consult

Medications:

Continue B6 can continue to receive his medications as prescribed by the cardiology service. You may give them to him tonight with a small amount of soft food.

Diet: Please feed Brom soft food.

B6

B6

Prescription Refill Disclaimer:

For the safety and well-being of our patients, your pet must have had an examination by one of our veterinarians within the past year in order to obtain prescription medications.

Ordering Food:

Please check with your primary veterinarian to purchase the recommended diet(s). If you wish to purchase your food from us, please call 7-10 days in advance (508-887-4629) to ensure the food is in stock. Alternatively, veterinary diets can be ordered from online retailers with a prescription/veterinary approval.

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Clinical trials are studies in which our veterinary doctors work with you and your pet to investigate a specific disease process or a promising new test or treatment. Please see our website: vet.tufts.edu/cvmc/clinical-studies

Case: B6

Owner: B6

Discharge Instructions

B6

Radiology Request & Report

Patient

Name: B6
Species: Canine
Black/Tan Male (Neutered)
Doberman Pinscher
Birthdate: B6

Owner

Name: B6
Address: B6

Patient ID: 320320

Date of request: B6

Attending Clinician: B6 DVM, DACVS

Student: B6 V19

Date of exam: B6

Patient Location: Ward/Cage: B ward Run 4

Weight (kg) 40.00

Sedation

- Inpatient
- Outpatient Time:
- Waiting
- Emergency

- BAG
- OBAG
- 1/2 dose OBAG
- DexDomitor/Butorphanol
- Anesthesia to sedate/anesthetize

Examination Desired: Met check under pre-med before surgery

Presenting Complaint and Clinical Questions you wish to answer:

Admit to B Ward, Collect Deposit

Pertinent History:

Oral fibrosarcoma debulked on B6 second debulking surgery today
History of DCM and Atrial fibrillation

Findings:

B6

B6

Conclusions:

- Faint right middle lung lobe interstitial to alveolar pattern. This may represent a focus of pneumonia. Correlate to thoracic auscultation. Follow-up radiographs are recommended to monitor.
- Mild generalized cardiomegaly with moderate left-sided enlargement without evidence of cardiac decompensation. This is consistent with reported DCM. Echocardiography can be considered for further evaluation as clinically indicated prior to anesthesia.
- Mild diffuse bronchial pattern may represent chronic lower airway disease (allergic, infectious or parasitic etiologies) or age related changes. Correlate with clinical history.
- No evidence of thoracic neoplasia.

Radiologists

Primary: B6, DVM

Reviewing: B6, BVSc, DACVR

Dates

Reported: 2/20/2019

Finalized: 2/28/2019

B6

Patient: B6
B6 Male (Neutered)
Canine Doberman Pinscher
Patient ID: 320320

SURGERY REPORT

Date of report: B6

Attending Clinician: B6

Date of procedure: B6

Primary Surgeon: Dr. B6

Student: B6, Y19

Procedure(s) performed: Right caudal maxillary mass debulking

Report:

B6

Specimens obtained:

Right maxillary mass for histopathology

Concerns:

-aspiration

B6

Discharge Instructions

Patient

Name: B6

Species: Canine

Black/Tan Male (Neutered) Doberman

Pinscher

Birthdate: B6

Owner

Name: B6

Address: B6

Patient ID: 320320

Attending Cardiologist:

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

Cardiology Resident:

B6

Cardiology Technician:

B6

(Cardiology)

Student: B6 V19

Date: 3/7/2019

Diagnoses:

Dilated cardiomyopathy (DCM), asymptomatic

Atrial and ventricular arrhythmia

Oral fibrosarcoma

Case summary:

Thank you for bringing B6 to Tufts for evaluation of his heart. Upon echocardiogram (ultrasound of the heart) today, his DCM is stable. There were no significant differences in comparison to findings from B6 previous echocardiogram. Electrocardiogram was also similar but showed slightly less frequent arrhythmia (abnormal heart rhythm), more specifically some atrial and fewer ventricular premature contractions, and slower heart rate so we will continue his B6 medication. Since B6 is enrolled in the study on DCM, and we submitted some blood work for that study which will give us other markers of heart health. We will plan to call you with those results.

We are sorry to hear that his mouth is causing him discomfort and decreased appetite. We are sending you home with an appetite stimulant and some anti-diarrheal medication to help improve his comfort at home. It is ok to dissolve his medication to give in a liquid slurry if that works better for him. We recommend avoiding putting his pills in his food.

Monitoring at home:

- We would like you to occasionally monitor your dog's breathing rate and effort at home, ideally during sleep or at a time of rest. The doses of drugs will be adjusted based on the breathing rate and effort.
- In general, most dogs with heart failure that is well controlled have a breathing rate at rest of less than 35 to 40 breaths per minute. Given that B6 is a large breed dog, his respiratory rate should be no more than 35 breaths

per minute at rest, and it may be much lower. In addition, the breathing effort, noted by the amount of belly wall motion used for each breath, is fairly minimal if heart failure is controlled.

- An increase in breathing rate or effort will usually mean that you should give a dose of furosemide (Lasix). If difficulty breathing is not improved by within 30-60 minutes after giving extra furosemide then we recommend that a recheck exam be scheduled and/or that your dog be evaluated by an emergency clinic.
- There are instructions for monitoring breathing, and a form to help keep track of breathing rate and drug doses, on the Tufts HeartSmart web site (<http://vet.tufts.edu/heartsmart/at-home-monitoring/>).
- We also want you to watch for weakness or collapse, a reduction in appetite, worsening cough, or distention of the belly as these findings indicate that we should do a recheck examination.
- If you have any concerns, please call or have your dog evaluated by a veterinarian. Our emergency clinic is open 24 hours/day.

Recommended Medications:

We discussed tips for getting medications into **B6**. You can crush or dissolve his tablets right before you give the medications if you find it easier to give them this way. You can use small amounts of appetizing foods like low-sodium peanut butter, cream cheese, cake frosting, and marshmallows to hide pills in. *If you are unable to get all of his oral medications in to him, we want you to prioritize his Pimobendan and Amiodarone medications.*

B6

Diet Suggestions

Diet and supplement suggestions:

Dogs with heart failure accumulate more fluid in their body if they eat large amounts of sodium (salt). Sodium can be found in all foods, but some foods are lower in sodium than others. Many pet treats, people foods, and supplements used to give pills often have more sodium than is desirable - a sheet that has suggestions for low sodium treats can be found on the HeartSmart web site (<http://vet.tufts.edu/heartsmart/diet/>)

- The FDA is currently investigating an apparent association between diet and a type of heart disease called dilated cardiomyopathy. The exact cause is still unclear, but it appears to be associated with boutique diets and those

containing exotic ingredient or are grain-free. Therefore, we are currently recommending that dogs do not eat these types of diets.

- We recommend switching [B6] to commercial diet made by a well-established company that is not grain-free and does not contain any exotic ingredients, such as kangaroo, duck, lamb, venison, lentils, peas, beans, buffalo, tapioca, barley, and chickpeas.
- The FDA issued a statement regarding this issue (<https://www.fda.gov/AnimalVeterinary/NewsEvents/CVMUpdates/ucm613305.htm>) and a recent article published by Dr. Lisa Freeman on the Cummings School's Petfoodology blog can further explain these findings (<http://vetnutrition.tufts.edu/2018/06/a-broken-heart-risk-of-heart-disease-in-boutique-or-grain-free-diets-and-exotic-ingredients/>).
- Our nutritionists have compiled a list of dog foods that are good options for dogs with heart disease.

Dry Food Options:

Royal Canin Early Cardiac (veterinary diet)

Royal Canin Boxer

Purina Pro Plan Adult Weight Management

Purina Pro Plan Bright Mind Adult Small Breed Formula

Canned Food Options:

Hill's Science Diet Adult Beef and Barley Entree

Hill's Science Diet Adult 1-6 Healthy Cuisine Roasted Chicken, Carrot, and Spinach Stew

Royal Canin Mature 8+

Exercise Recommendations

Limited activity is recommended, but [B6] can still be allowed to play. Short leash walks are ideal. If you find the [B6] lagging behind or needs to stop on a walk then this was too long a walk and shorter walks are advised in the future. Repetitive or strenuous high energy activities (repetitive ball chasing, running fast off-leash, etc.) are generally not advised at this stage of heart disease. Please be aware that dog's with significant arrhythmia, as is [B6] case, are at risk of sudden death as a result of fatal arrhythmia, and we worry that high intensity activity can increase this risk.

Recheck Visits: A recheck visit is scheduled for Monday June 10th at 4PML. At this visit we will want to check breathing effort and heart function with an echocardiogram, ECG and a blood test as part of the DCM study.

Thank you for entrusting us with [B6] care. He is such a good boy and we hope that the entyce helps his appetite. Please contact our Cardiology liaison at (508)-887-4696 or email us at cardiovet@tufts.edu for scheduling and non-emergent questions or concerns.

Please visit our HeartSmart website for more information

<http://vet.tufts.edu/heartsmart/>

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For the safety and well-being of our patients, your pet must have had an examination by one of our veterinarians within the past year in order to obtain prescription medications.

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Clinical trials are studies in which our veterinary doctors work with you and your pet to investigate a specific disease process or a promising new test or treatment. Please see our website: vet.tufts.edu/cvmc/clinical-studies

Case: [B6]

Owner: [B6]

Discharge Instructions

Nutritional Tips for Pets with Heart Disease

Low sodium, high quality pet treats

Notes:

1. Most other dog treats are high in sodium.
2. If your pet has other medical conditions, these treats may not be appropriate. Talk to your veterinarian if you have questions or make an appointment with the Nutrition Service.

Product	Calories per treat
Dogs	
Hill's Science Diet Baked Light Biscuits with Real Chicken Small Dog Treat	8
Hill's Science Diet Baked Light Biscuits with Real Chicken Medium Dog Treat	34
Hill's Science Diet Soft Savories Peanut Butter & Banana, Beef & Cheddar, or Chicken & Yogurt Dog Treat	25-27, depending on flavor
Hill's Ideal Balance Soft-Baked Naturals with Chicken & Carrots, Duck & Pumpkin, or Beef & Sweet Potato Dog Treat	12-13, depending on flavor
Purina Beyond Natural Salmon Dog Biscuit Treat with Oats or Chicken & Barley	27-29, depending on flavor
Purina Alpo Variety Snaps Little Bites (beef, chicken, liver, lamb or beef, bacon, cheese, peanut butter)	16
Purina Alpo Variety Snaps Big Bites (beef, chicken, liver, lamb)	58
Royal Canin Original Canine treat	5
Cats	
Royal Canin Original Feline treat	2
Fancy Feast Duos Natural Rotisserie Chicken Cat treat	2
Fancy Feast Duos Tuna with Accents of Parsley Cat treat	2

Taste enhancers to can make your pet's food tastier to increase food intake

Safe and effective appetite stimulants are now available for dogs and cats. Please talk to your veterinarian if your pet is not eating well, not eating ideal foods, or is losing weight.

Notes:

1. All foods in this list should be prepared without salt
2. These taste enhancers should be added in small amounts. If your pet eats too much of them, they will unbalance the diet and increase your pet's risk for nutritional deficiencies

Dogs

- ♥ Honey or maple syrup
- ♥ Homemade chicken, beef, or fish broth (made without salt; avoid all deli meats and rotisserie chicken). Avoid store bought broths because even the low sodium brands are too high in sodium.
- ♥ Sugar (brown or white) – Domino pourable light brown sugar is a good option
- ♥ Vanilla or fruit yogurt – One option that dogs seem to like is Yoplait Custard Yogurt (caramel or vanilla flavors). If you try other brands, just be sure the sodium is less than 100 mg per 100 calories (the Yoplait is 95 mg per 170 calories which comes out to 56 mg sodium per 100 calories). Also avoid yogurts with artificial sweeteners.
- ♥ Maple syrup. Low salt brands include Log Cabin All Natural, Maple Grove Farm 100% pure maple syrup, or Stop and Shop Original Syrup
- ♥ Applesauce (be sure they have less than 50 mg sodium per serving)
- ♥ Ketchup (no salt added). Examples include Hunts or Heinz no salt added
- ♥ Pasta sauce (no salt added). Examples: Francesco Rinaldi no salt added or Enrico's no salt added)
- ♥ Frosted Mini Wheats Original – these can be crumbled on his food
- ♥ Lean meats, cooked (chicken, turkey, beef, or fish) – not deli/sandwich meats/cold cuts, rotisserie chicken, and any canned fish or meat
- ♥ Eggs, cooked

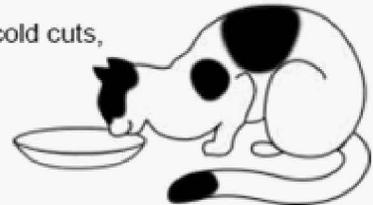


Dogs (continued)

- ♥ Homemade chicken, beef, or fish broth (even low sodium store-bought broths are too high in sodium). Avoid all canned soups unless labeled as no salt added
- ♥ Low-salt breakfast cereal - the label should read, "very low sodium food" or contain less than 20 mg sodium per serving. A good option is Frosted Mini Wheats Original or Little Bites Original
- ♥ Fresh vegetables/fruit. Examples include carrots, green beans, apple, orange, banana (avoid grapes, raisins, onions, garlic)
- ♥ Low sodium canned dog foods

Cats

- ♥ Lean meats, cooked (chicken, turkey, beef, or fish) – not sandwich meats/cold cuts, canned tuna, or rotisserie chicken
- ♥ Eggs, cooked
- ♥ Homemade chicken, beef, or fish broth (even low sodium store-bought broths are too high in sodium)
- ♥ Low sodium canned cat foods



Foods to avoid

- ♥ Fatty foods (meat trimmings, cream, ice cream)
- ♥ Baby food
- ♥ Pickled foods
- ♥ Bread
- ♥ Pizza
- ♥ Condiments (ketchup, soy sauce, barbecue sauce, etc – unless they are unsalted or no salt added)
- ♥ Sandwich meats/cold cuts (ham, corned beef, salami, sausages, bacon, hot dogs)
- ♥ Rotisserie chicken
- ♥ Most cheeses, including "squirtable" cheeses
- ♥ Processed foods (such as, potato mixes, rice mixes, macaroni and cheese)
- ♥ Canned vegetables (unless "no salt added")
- ♥ Potato chips, packaged popcorn, crackers, and other snack foods
- ♥ Soups (unless homemade without salt)
- ♥ Most commercial pet treats

Tips for administering medications

Foods commonly used to administer your pet's pills can provide a large amount of additional salt to your pet's diet. Preferable ways to give medications include:

- ♥ Have one of our staff show you how to give medications without using food
- ♥ Insert medications into one of the following foods:

Dogs or cats

- Low-sodium canned pet food
- Home-cooked meat such as chicken or hamburger (made without salt); not lunch meats
- Whipped cream (Reddi Wip)
- Marshmallows
- Greenies Pill Pockets
 - Dog chicken, hickory smoke, or peanut butter flavors; cat chicken or salmon flavor
 - Avoid grain-free duck and pea which is high in sodium
 - Try to use the smallest size possible (ideally, the cat sized Pill Pockets, even for dogs) and as few as possible to avoid excessive salt.
 - Caution: Not all similar products from other companies are low in sodium .

Dogs

- Soft fruit, such as banana, orange, melon, or strawberries (avoid grapes)
- Peanut butter (only if labeled as "no salt added") – examples include Smucker's Natural Creamy Peanut Butter with No Salt Added or Teddie All Natural Smooth Unsalted Butter
- Frosting (should be less than 75 mg/serving and contain no artificial sweeteners or xylitol). Examples include Duncan Hines whipped vanilla frosting, Betty Crocker whipped vanilla frosting)

You may find our Petfoodology post called, "Pill-popping pets" helpful for additional ideas:

http://vetnutrition.tufts.edu/2018/09/foods_for_giving_pills/

Cummings Veterinary Medical Center

AT TUFTS UNIVERSITY

Cardiology Liaison: 508-887-4696

B6

Patient ID: 320320

B6 Canine
Years Old Male (Neutered) Doberman
Pinscher
Black/Tan

Cardiology Appointment Report

Date: 3/7/2019

Attending Cardiologist:

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

M (Cardiology)
ology)
y) (PRIMARY)

Cardiology Resident:

B6

Cardiology Technician:

B6

, VTS (Cardiology)

CVT

Student: B6 /19

Presenting Complaint: Recheck DCM/arrhythmia; DCM study

Concurrent Diseases:

Hx of oral fibrosarcoma incompletely removed 2/2019 after failing to respond to metronomic chemotherapy.

History of Anaplasma

History of von Willebrand disease

History of skin allergies

History of elevated ALT

General Medical History:

Has been doing okay on and off; owner thinks that he is painful and has been picking out pills. Owner is getting tramadol liquid from vet. Owner has not been able to get heart medication in for 2 days except 1 enalapril yesterday. Owner wants to know if possible to do compounding into a liquid for medications. Still wants to go for walks twice a day. Appetite has decreased but owner suspects it is because of pain related to oral mass. Diarrhea/soft stool for the past week and seems to be improving. Owner thinks the oral mass is infected based on smell. Owner asks about compounding liquid metronidazole. Couple weeks ago vomited a couple of times right after eating but resolved on its own. Owner wants to know about appetite stimulants.

Diet and Supplements:

Only willing to eat pure beef/lamb, not interested in vegetables. Owner is trying to incorporate regular

dog food (one of the recommend low sodium diets we recommend but can't remember which one).
No supplements

Cardiovascular History:

Prior CHF diagnosis? No

Prior heart murmur? No

Prior ATE? no

Prior arrhythmia? Yes

Monitoring respiratory rate and effort at home? Not daily, always below 17/min

Cough? 2 coughs yesterday for the first time but none since then

Shortness of breath or difficulty breathing? No

Syncope or collapse? No

Sudden onset lameness? No

Exercise intolerance? No

Current Medications Pertinent to CV System:

B6

Cardiac Physical Examination:

General PE: generalized shaking,
painful swelling on R side of mouth (did
not fully evaluate mouth due to pain),
increased R submandibular and
prescapular LN, multiple cutaneous
masses

MM Color and CRT: pink, CRT =2

BCS (1-9): 6

BW (kg): 38.1 kg

Heart rate: 72

Respiratory rate: 20

Temp (if possible): NP

Muscle condition:

Normal

Moderate cachexia

Mild muscle loss

Marked cachexia

Cardiovascular Physical Exam:

Murmur Grade:

- None
- I/VI
- II/VI
- III/VI

- IV/VI
- V/VI
- VI/VI

Jugular vein:

- Bottom 1/3 of the neck
- Middle 1/3 of the neck

- 1/2 way up the neck
- Top 2/3 of the neck

Arterial pulses:

- Weak
- Fair
- Good
- Strong

- Bounding
- Pulse deficits
- Pulsus paradoxus
- Other:

Arrhythmia:

- None
- Sinus arrhythmia
- Premature beats

- Bradycardia
- Tachycardia

Gallop:

- Yes
- No
- Intermittent

- Pronounced
- Other:

Pulmonary assessments:

- Eupneic
- Mild dyspnea
- Marked dyspnea
- Normal BV sounds

- Pulmonary crackles
- Wheezes
- Upper airway stridor

Abdominal exam:

- Normal
- Hepatomegaly
- Abdominal distension

- Mild ascites
- Marked ascites

Problems & Differential Diagnoses:

History of DCM and APCs/NPCs

Painful R mouth- R/O infection vs. regrowth tumor

Diarrhea- R/O- medication side effects vs. stress colitis vs. neoplasia

Diagnostic plan:

- Echocardiogram
- Chemistry profile
- ECG- during echo
- Renal profile
- Blood pressure

- Dialysis profile
- Thoracic radiographs
- NT-proBNP
- Troponin I
- Other tests: DCM study

Echocardiogram Findings:

General/2-D findings:

B6

Doppler findings:

Trace MR and TR

Mitral inflow:

- Summated
- Normal
- Delayed relaxation
- Pseudonormal
- Restrictive

ECG findings:

NSR with frequent APCs and occasional isolated VPCs

Assessment and recommendations:

Echocardiogram reveals similar advanced DCM compared too previous exam. Patient is not eating well lately; suspect related to oral mass, but chemistry panel submitted to assess renal and liver values. Recommend prioritizing pimobendan and amiodarone until taking meds better. Sent home with a sample of Entyce. If appetite improves, strongly recommend feeding one of the recommended dog food diets rather than home cooked, just in case this could be playing a role in his heart disease. Continue to have furosemide on hand in case of increased RR/RE. BNP and troponin submitted for study. Recheck echo and blood work in another 3 months for the study.

Final Diagnosis:

DCM
Ventricular and supraventricular ectopy
Oral fibrosarcoma

Heart Failure Classification Score:

ISACHC Classification:

- Ia
- Ib
- II
- IIIa
- IIIb

ACVIM Classification:

- A
- B1
- B2
- C
- D

M-Mode

IVSd
LVIDd
LVPWd
IVSs
LVIDs
LVPWs
EDV(Teich)
ESV(Teich)

B6

cm
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ml
ml

EF(Teich)
%FS
SV(Teich)
Ao Diam
LA Diam
LA/Ao
Max LA
Ao Diam
LA Diam
LA/Ao
TAPSE
EPSS

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M-Mode Normalized

IVSdN
LVIDdN
LVPWdN
IVSsN
LVIDsN
LVPWsN
Ao Diam N
LA Diam N

B6

{0.290 - 0.520}
{1.350 - 1.730}!
{0.330 - 0.530}!
{0.430 - 0.710}
{0.790 - 1.140}!
{0.530 - 0.780}!
{0.680 - 0.890}
{0.640 - 0.900}!

2D

SA LA
Ao Diam
SA LA / Ao Diam
IVSd
LVIDd
LVPWd
EDV(Teich)
IVSs
LVIDs
LVPWs
ESV(Teich)
EF(Teich)
%FS
SV(Teich)
LV Major
LV Minor
Sphericity Index
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LVAd LAX
LVEDV A-L LAX
LVEDV MOD LAX
LVls LAX
LVAs LAX
LVESV A-L LAX
LVESV MOD LAX

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HR
EF A-L LAX
LVEF MOD LAX
SV A-L LAX
SV MOD LAX
CO A-L LAX
CO MOD LAX

B6

BPM
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%
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ml
l/min
l/min

Doppler
MR Vmax
MR maxPG
MV E Vel
MV DecT
MV Dec Slope
MV A Vel
MV E/A Ratio
E'
E/E'
A'
S'
AV Vmax
AV maxPG
PV Vmax
PV maxPG

B6

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B6

Client and Pet Registration Form

Client Name: B6

Spouse/Partner:
Address:
City, State, Zip: B6

Home Phone:
Work Phone:
Cell Phone:
Email:
Pager: B6

Pet Name: B6
Patient ID: 320320
Date of Birth: B6
Age: B6 years Old
Species: Canine
Breed: Doberman Pinscher
Color: Black/Tan
Sex: Male (Neutered)
Weight: Weight (kg) 38.10 kg
Rabies Date:

Referring Veterinarian: B6

B6

Agreement and Consent:

- I agree to pay for all services rendered to my pet at the end of today's examination.
- I understand that payment is required at the time of service.
- I understand that the cost of the initial exam does not cover any further diagnostics, treatments, or medications that may be necessary for my pet.
- I understand that if further diagnostics or treatments are recommended by the doctor I may request an estimate of those charges first.
- I understand that I have the right to refuse any treatments, diagnostics, or medications that have been recommended to me by the doctor.

Signature: _____ Date: 3/18/2019

You and your doctor will be provided with a report from the doctor for every examination performed on your pet at B6 Thank you for trusting us to care for your pet!

B6

Patient Discharge Summary

Client Name:

B6

Referring Veterinarian:

B6

Patient Name:

B6

Patient ID:

320320

Species:

Canine

Breed:

Doberman Pinscher

Age:

B6 Years Old

Weight:

Weight (kg) 38.10 kg

Check in date:

3/18/2019 1:49:45 PM

Veterinary Medical Team:

B6

DVM, DACVAA

Diagnosis: Cancer pain

Case Summary:

You brought B6 to see me for advice about his pain. You are mainly concerned because his appetite declined (which has been helped by the B6) and it was difficult to get pills into him, but also because he seemed to have paroxysms of pain, where he exhibited shaking and it interrupts his sleep (and yours). He had not been anything for pain since you discontinued the metronomic therapy for his cancer - there was B6 (tablet) once a day in that protocol. Then Dr. B6 suggested you try a compounded dose of B6 and it has made a major difference. She also recommended a hemp supplement oil, which you have not started yet. He does not do well on gabapentin. You are afraid to give too much of the B6. Currently he is eating mainly salmon filets and dog cookies. You are doing an amazing job trying to separate his medication administration from his feeding times / locations.

He likes to go for walks several times a day. His other quality of life indicators are his engagement with you, and his sleep patterns.

He has reluctance to go up the stairs and you help him, but on the B6 one day he did it on his own.

I discussed methods to treat his pain, and how to monitor him for how he is feeling.

Patient Care Instructions:

B6

B6

Medications:

Dispense:

Continue:

B6

Follow-up Instructions:

I can make additional recommendations going forward. I will send you the comfort diary to use if you choose.

Please do not hesitate to email me with questions or concerns and we can set up a time to talk by phone.

B6

You are truly honoring his well being above all and it was a pleasure to meet both of you.

B6

DVM, DACVAA

Discharge Date: 3/18/2019

Treatment Plan

Estimated Charges
03/19/2019

B6

B6

This estimate is based upon our preliminary examination. This is an estimate and is not the final bill. Every effort will be made to keep you informed of the current status of your bill throughout your animal's hospitalization. The final fee may vary considerably from this estimated cost.

Description	Low Qty	Low Extended	High Qty	High Extended
Tumor Removal (Simple)	1.00			
Anesthesia Work-Up	1.00			
PCV/TS/BG/AZO - FHSA	1.00			
Daily Professional Care: General Ward	.50			
Anesthesia Disposables/agents	1.00			
Medication (General Estimate) - FHSA	.50			
Hospitalization: Day Board (Dog)	1.00			
Von Willebrand's Factor Antigen (Clinical Sciences Lab) - FHSA	1.00			
General Supplies: Surgery	2.00			
Ligasure - FHSA	1.00			
NOVA (Full Panel) - FHSA	1.00			
Anesthesia 1 Hr/30 M	1.00			

B6

B6

B6

Doctor of Record: **B6**

Client Signature _____

I understand that no guarantee of successful treatment is made. I certify that I have read and fully understand the authorization for medical and/or surgical treatment, the reason for why such medical and/or surgical treatment is considered necessary, as well as its advantages and possible complications, if any. I also assume financial responsibility for all charges incurred to this patient(s). I agree to pay 75% of the estimated cost at the time of admission. Additional deposits will be required if additional care or procedures are required. I further agree to pay the balance of the charges when this patient(s) is released.

Procedural billing is inclusive up to and including the estimated duration of hospitalization. There will be additional expenses if hospitalization extends beyond the specified duration.

I have read, understand, and agree to accept the conditions of this treatment plan.

Thank you for entrusting us with your pet's care.

High Total	B6
Low Total	
75% Deposit	

From: Rotstein, David </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=0A3B17EBFCF14A6CB8E94F322906BADD-DROTSTEI>
To: Carey, Lauren; Ceric, Olgica; Glover, Mark; Jones, Jennifer L; Nemser, Sarah; Palmer, Lee Anne; Peloquin, Sarah; Queen, Jackie L; Rotstein, David
Sent: 4/15/2019 10:48:01 AM
Subject: DCM cases 4/15/2019 0645
Attachments: Nature's Domain - Salmon and Sweet Potato-Nature's Domain - Turkey ad Sweet Potato-Nature's Domain - Beef and Sweet Potato-Nature's Domain - Canned Grain free Dog Food: [B6] - EON-385037; Solid Gold Mighty Mini Beef: Lisa Freeman - EON-380716; Solid Gold Mighty Mini Beef: Lisa Freeman - EON-384905

Related EON-348905 (not sure if following the original)

David Rotstein, DVM, MPVM, Dipl. ACVP
CVM Vet-LIRN Liaison
CVM OSC/DC/CERT
7519 Standish Place
[B6] (BB)



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B6

B6



Thursday, July 07, 2016

B6

B6

Thank you for your referral of B6 a B6 0 Mos., Female Retriever, Golden owned by B6 seen on Thursday, July 07, 2016.

Presenting Complaint: screening exam

History of Chief Complaint

Recent History: B6 littermate has been diagnosed with aortic stenosis. The specifics and severity of that diagnosis are unknown. B6 is a healthy dog with no reported concerns by the owner. B6 is a potential breeding dog.

Co-morbidities: none reported

Current Medications:

- 1. None reported

B6

Dimensional Measurements

Parameter	Patient Value	Normal Range	Normal (Mean)
LVIDd (mm)	B6	38 - 47	42.55
LVIDs (mm)		25 - 30	27.65
FS (%)		25-45%	n/a
LVIDdn (cm/kg)		n/a	<1.70
LVIDsn (cm/kg)		n/a	<1.20
EPSS (mm)		4 - 4	3.93
IVSd (mm)		9 - 11	9.61

LFWd (mm)	B6	9 - 11	9.69
LA - 2D (mm)		n/a	n/a
Ao - 2D (mm)		n/a	n/a
LA/Ao - 2D		n/a	<1.60
LA - M-mode (mm)		22 - 27	23.55
Ao - M-mode (mm)		21 - 26	24.85
LA/Ao - M-mode		n/a	<1.50

LVIDd = LV dimension diastole; LVIDs = LV dimension systole; LVIDsn = normalized LV dimension diastole; LVIDsn = normalized LV dimension systole; FS = fractional shortening; IVSd = septal thickness in diastole; LFWd = LV free wall thickness in diastole; LA = left atrium; Ao = aorta; EPSS = E-point to septal separation. **Shaded lines indicate abnormalities.**

Doppler Parameters

Parameter	Patient Value	Normal Range	Normal (Mean)
Ao - sys (m/sec)	B6	n/a	<2.00
LV-Ao PG (mmHg)		n/a	<25.00
PA - sys (m/sec)		n/a	<1.5
RV-PA PG (mmHg)		n/a	<25.00
MV E-A ratio		n/a	>1.00
MR Vel - sys (m/sec)		n/a	~5.00
LV-LA PG (mmHg)		n/a	~100
TR Vel - sys		n/a	<3.00
RV-RA PG (mmHg)		n/a	<36.00

MR = mitral regurgitation; TR = tricuspid regurgitation; PA = pulmonary artery; Sys = systole; Vel = velocity; PG = pressure gradient. **Shaded lines indicate abnormalities.**

Diagnosis

1. Congenital Mitral Dysplasia, mild
2. R/O Congenital Aortic Stenosis, equivocal

Recommendations

B6

Comments

1. This patient has very mild congenital mitral dysplasia. There are no clinical concerns and treatment is not warranted. This is typically a static lesion and progression is not expected. However, acquired changes that could potentially develop later in life may exacerbate the MR.
2. The findings potentially suggestive of aortic stenosis are subtle. Where there is a step-up in velocity the flow is laminar throughout the outflow tract and ascending aorta. PW Doppler flow velocities from the apical location are in the normal range. However, the CE Doppler from the subcostal position suggests a marginal velocity. This patient also does not have an audible heart murmur. Once again there are no clinical concerns regarding these findings and treatment is not indicated.
2. This patient should not be bred.

Please do not hesitate to call with any questions or concerns. We appreciate your confidence in Specialists and thank you for entrusting your clients and patients to our hospital.

B6

Sincerely,

B6

From: Jones, Jennifer L </o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0f6ca12eaa9348959a4cbb1e829af244-Jennifer.Jo>
To: Rotstein, David; Palmer, Lee Anne; Carey, Lauren; Burkholder, William
CC: Norris, Anne; Hartogensis, Martine; 'Reimschuessel, Renate (Renate.Reimschuessel@fda.hhs.gov)'; Ceric, Olgica; Nemser, Sarah
Sent: 6/27/2018 5:26:20 PM
Subject: DCM Product [REDACTED] B5
Attachments: [REDACTED]

B5

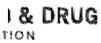
Based on Bill's recommendation, [REDACTED] B5 we've been notified about, including those from Tufts, CVCA, NCSU, and OH (i.e. not necessarily received through the Safety reporting portal). [REDACTED] B5

B5

For the Bottom Line, see the PPT. The ppt notes will walk you through my analysis. Please let me know if you have questions.

Jennifer L. A. Jones, DVM

Veterinary Medical Officer
U.S. Food & Drug Administration
Center for Veterinary Medicine
Office of Research
Veterinary Laboratory Investigation and Response Network (Vet-LIRN)
8401 Muirkirk Road, G704
Laurel, Maryland 20708
new tel: 240-402-5421
fax: 301-210-4685
e-mail: jennifer.jones@fda.hhs.gov
Web: <http://www.fda.gov/AnimalVeterinary/ScienceResearch/ucm247334.htm>



From: PFR Event <pfpreventcreation@fda.hhs.gov>
To: Cleary, Michael *; HQ Pet Food Report Notification; [B6]
Sent: 12/27/2018 3:16:35 PM
Subject: Acana Free Run Poultry dry: Lisa Freeman - EON-374786
Attachments: 2060599-report.pdf; 2060599-attachments.zip

A PFR Report has been received and PFR Event [EON-374786] has been created in the EON System.

A "PDF" report by name "2060599-report.pdf" is attached to this email notification for your reference. Please note that all documents received in the report are compressed into a zip file by name "2060599-attachments.zip" and is attached to this email notification.

Below is the summary of the report:

EON Key: EON-374786

ICSR #: 2060599

EON Title: PFR Event created for Acana Free Run Poultry dry; 2060599

AE Date	08/20/2018	Number Fed/Exposed	2
Best By Date		Number Reacted	2
Animal Species	Dog	Outcome to Date	Stable
Breed	Doberman Pinscher		
Age	10 Years		
District Involved	PFR-New England DO		

Product information

Individual Case Safety Report Number: 2060599

Product Group: Pet Food

Product Name: Acana Free Run Poultry dry

Description: Housemate was diagnosed with DCM ([B6] - previously reported). [B6] was asymptomatic but eating same diet (Acana) so was screened 8/20/18 - reduced contractile function. Owner changed diet to Pro Plan Weight Management dry. No improvement on 12/12/18 echo. Will recheck in 3 months
 WB taurin [B6]

Submission Type: Initial

Report Type: Adverse Event (a symptom, reaction or disease associated with the product)

Outcome of reaction/event at the time of last observation: Stable

Number of Animals Treated With Product: 2

Number of Animals Reacted With Product: 2

Product Name	Lot Number or ID	Best By Date
Acana Free Run Poultry dry		

Sender information

Lisa Freeman
200 Westboro Rd
North Grafton, MA 01536
USA

Owner information

B6

USA

To view this PFR Event, please click the link below:

B6

To view the PFR Event Report, please click the link below:

B6

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Failure to adhere to the above provisions could result in removal from the approved distribution list. If you think you received this email in error, please send an email to FDAREportableFoods@fda.hhs.gov immediately.

From: PFR Event <pfpreventcreation@fda.hhs.gov>
To: Cleary, Michael *; HQ Pet Food Report Notification; [B6]
Sent: 1/12/2019 10:36:20 AM
Subject: ACANA Lamb and Apple Singles Formula; [B6] EON-376195
Attachments: 2061133-report.pdf

A PFR Report has been received and PFR Event [EON-376195] has been created in the EON System.

A "PDF" report by name "2061133-report.pdf" is attached to this email notification for your reference.

Below is the summary of the report:

EON Key: EON-376195

ICSR #: 2061133

EON Title: PFR Event created for ACANA Lamb and Apple Singles Formula; 2061133

AE Date	10/22/2018	Number Fed/Exposed	2
Best By Date		Number Reacted	2
Animal Species	Dog	Outcome to Date	Unknown
Breed	Pit Bull		
Age	11 Years		
District Involved	PFR [B6] DO		

Product information

Individual Case Safety Report Number: 2061133

Product Group: Pet Food

Product Name: ACANA Lamb and Apple Singles Formula

Description: Fed our dog [B6] ACANA lamb and apple. Our dog presented with a hacking cough, eventually very quickly became lethargic and refused to eat. Took her to the ER and she was diagnosed with heart failure, she stayed in the ICU for three days and was diagnosed by her cardiologist there with nutritional cardiomyopathy. She has since been removed from the food, on medications, and supplements and has responded well. She still has severe damage to her heart and it is severely enlarged. Her cardiologist attributes this to the dog food that she was eating and she had no health problems before hand and it was late onset at the age of 11 to be diagnosed with DCM.

Submission Type: Initial

Report Type: Adverse Event (a symptom, reaction or disease associated with the product)

Outcome of reaction/event at the time of last observation: Unknown

Number of Animals Treated With Product: 2

Number of Animals Reacted With Product: 2

Product Name	Lot Number or ID	Best By Date
ACANA Lamb and Apple Singles Formula		

Sender information

B6

USA

To view this PFR Event, please click the link below:

B6

To view the PFR Event Report, please click the link below:

B6

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From: PFR Event <pfpreventcreation@fda.hhs.gov>
To: Cleary, Michael *; HQ Pet Food Report Notification; [B6]
Sent: 1/9/2019 2:52:20 AM
Subject: Canidae Grain Free Pure Wild Dry Dog Food with Wild Boar-Grain Free Limited Ingredient Diet: [B6] - EON-375880
Attachments: 2060996-report.pdf; 2060996-attachments.zip

A PFR Report has been received and PFR Event [EON-375880] has been created in the EON System.

A "PDF" report by name "2060996-report.pdf" is attached to this email notification for your reference. Please note that all documents received in the report are compressed into a zip file by name "2060996-attachments.zip" and is attached to this email notification.

Below is the summary of the report:

EON Key: EON-375880

ICSR #: 2060996

EON Title: PFR Event created for Canidae Grain Free Pure Wild Dry Dog Food with Wild Boar Grain Free Limited Ingredient Diet; 2060996

AE Date	06/21/2018	Number Fed/Exposed	1
Best By Date		Number Reacted	1
Animal Species	Dog	Outcome to Date	Better/Improved/Recovering
Breed	Retriever - Golden		
Age	3 Years		
District Involved	PFR-San Francisco DO		

Product information

Individual Case Safety Report Number: 2060996

Product Group: Pet Food

Product Name: Canidae Grain Free Pure Wild Dry Dog Food with Wild Boar Grain Free Limited Ingredient Diet

Description: I became aware of a possible link between feeding grain free food and low Taurine levels/DCM. Since my dog had been on Canidae grain free for a year (May 2017 - early June 2018), I tested her whole blood Taurine level on 6/21/18. Her whole blood Taurine level was [B6] which is considered low for Golden Retrievers.

I changed her food to grain inclusive and retested her on 10/1/2018. Her whole blood Taurine level increased to **B6** still slightly below "normal" for Golden Retrievers. She got an echocardiogram on 10/27/2018 and was found to have a "normal" heart.

Submission Type: Initial

Report Type: Both

Outcome of reaction/event at the time of last observation: Better/Improved/Recovering

Number of Animals Treated With Product: 1

Number of Animals Reacted With Product: 1

Product Name	Lot Number or ID	Best By Date
Canidae Grain Free Pure Wild Dry Dog Food with Wild Boar Grain Free Limited Ingredient Diet		

Sender information

B6

USA

To view this PFR Event, please click the link below:

B6

To view the PFR Event Report, please click the link below:

B6

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From: PFR Event <pfpreventcreation@fda.hhs.gov>
To: Cleary, Michael *; HQ Pet Food Report Notification; [B6]
Sent: 1/11/2019 2:28:08 AM
Subject: CRAVE Dog Food with Protein from Salmon and Ocean White Fish; [B6]
[B6] EON-376088
Attachments: 2061078-report.pdf

A PFR Report has been received and PFR Event [EON-376088] has been created in the EON System.

A "PDF" report by name "2061078-report.pdf" is attached to this email notification for your reference.

Below is the summary of the report:

EON Key: EON-376088

ICSR #: 2061078

EON Title: PFR Event created for CRAVE Dog Food with Protein from Salmon and Ocean White Fish;
2061078

AE Date	12/06/2018	Number Fed/Exposed	1
Best By Date		Number Reacted	1
Animal Species	Dog	Outcome to Date	Stable
Breed	Shih Tzu		
Age			
District Involved			

Product information

Individual Case Safety Report Number: 2061078

Product Group: Pet Food

Product Name: CRAVE Dog Food with Protein from Salmon and Ocean White Fish

Description: [B6] was eating Crave Grain Free Salmon & White Fish kibble as his main diet. After presenting to the veterinarian with a heart murmur, he was evaluated by echocardiogram and found to have severe dilated cardiomyopathy.

Submission Type: Initial

Report Type: Adverse Event (a symptom, reaction or disease associated with the product)

Outcome of reaction/event at the time of last observation: Stable

Number of Animals Treated With Product: 1

Number of Animals Reacted With Product: 1

Product Name	Lot Number or ID	Best By Date
CRAVE Dog Food with Protein from Salmon and Ocean White Fish		

Sender information

B6

USA

To view this PFR Event, please click the link below:

B6

To view the PFR Event Report, please click the link below:

B6

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From: PFR Event <pfpreventcreation@fda.hhs.gov>
To: Cleary, Michael *; HQ Pet Food Report Notification [B6]
Sent: 1/10/2019 7:48:20 PM
Subject: Diamond -Naturals-Skin & Coat-All Life Stages Dog-Salmon & Potato Formula: [B6] EON-376046
Attachments: 2061059-report.pdf

A PFR Report has been received and PFR Event [EON-376046] has been created in the EON System.

A "PDF" report by name "2061059-report.pdf" is attached to this email notification for your reference.

Below is the summary of the report:

EON Key: EON-376046

ICSR #: 2061059

EON Title: PFR Event created for Diamond Naturals Skin & Coat All Life Stages Dog Salmon & Potato Formula; 2061059

AE Date	12/23/2018	Number Fed/Exposed	2
Best By Date	12/17/2019	Number Reacted	1
Animal Species	Dog	Outcome to Date	Worse/Declining /Deteriorating
Breed	Basset - Griffon Vendeen (unspecified)		
Age	6 Years		
District Involved	PFR [B6] DO		

Product information

Individual Case Safety Report Number: 2061059

Product Group: Pet Food

Product Name: Diamond Naturals Skin & Coat All Life Stages Dog Salmon & Potato Formula

Description: After changing foods to a grain-free diet, the dog went into heart failure. His heart failure onset was sudden.

Submission Type: Initial

Report Type: Adverse Event (a symptom, reaction or disease associated with the product)

Outcome of reaction/event at the time of last observation: Worse/Declining/Deteriorating

Number of Animals Treated With Product: 2

Number of Animals Reacted With Product: 1

Product Name	Lot Number or ID	Best By Date
Diamond Naturals Skin & Coat All Life Stages Dog Salmon & Potato Formula		12/17/2019

Sender information

B6

USA

To view this PFR Event, please click the link below:

B6

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B6

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From: PFR Event <pfpreventcreation@fda.hhs.gov>

To: Cleary, Michael *; HQ Pet Food Report Notification; B6

Sent: 12/26/2018 3:16:26 PM

Subject: Fromm Family-From the Heartland-Grain Free-Dog Food; B6
EON-374687

Attachments: 2060556-report.pdf

A PFR Report has been received and PFR Event [EON-374687] has been created in the EON System.

A "PDF" report by name "2060556-report.pdf" is attached to this email notification for your reference.

Below is the summary of the report:

EON Key: EON-374687

ICSR #: 2060556

EON Title: PFR Event created for Fromm Family From the Heartland Grain Free Dog Food; 2060556

AE Date	04/01/2018	Number Fed/Exposed	1
Best By Date		Number Reacted	1
Animal Species	Dog	Outcome to Date	Died Naturally
Breed	Retriever - Labrador		
Age	8 Years		
District Involved	PFR B6 DO		

Product information

Individual Case Safety Report Number: 2060556

Product Group: Pet Food

Product Name: Fromm Family From the Heartland Grain Free Dog Food

Description: B6 had B6 As part of his recovery process, the surgeon put him on Antibiotics. He remained on those for about 3 months. After his recovery period, he was given a clean bill of health from the surgeon and he seemed fine. About a month later, he began coughing one day and the cough gradually worsened over the next few days. We took him to our regular vet. She put him on a different antibiotic stating the one from surgery may have killed off good bacteria and this one should correct that. Within 10 days, he seemed perfectly normal again. About two weeks later, his cough returned and got really bad quickly. We took him to the emergency vet hospital and they diagnosed him with an enlarged heart. We took him back two days

later for an echo cardiogram and it confirmed it. His heart was more than double the normal size. He died three weeks later. Because [B6] had always had some apparent allergies, we at the suggestion of our first veterinarian, we put him on grain free dog food when he was about 3 years old. [B6] had regular check-ups, lived a great life with great care. Even when they did the [B6] surgery, they never detected any abnormalities with his heart. When this occurred, we were stunned, as this condition was usually attributed to a birth defect. Yet at no time did he every exhibit any issues that would have led anyone to believe this was congenital. It was not until this article, that I realized that we had switched [B6] to a different grain free dog food about 12 months before he died.

Submission Type: Initial

Report Type: Adverse Event (a symptom, reaction or disease associated with the product)

Outcome of reaction/event at the time of last observation: Died Naturally

Number of Animals Treated With Product: 1

Number of Animals Reacted With Product: 1

Product Name	Lot Number or ID	Best By Date
Fromm Family From the Heartland Grain Free Dog Food		

Sender information

B6

USA

To view this PFR Event, please click the link below:

B6

To view the PFR Event Report, please click the link below:

B6

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From: PFR Event <pfpreventcreation@fda.hhs.gov>
To: Cleary, Michael *; HQ Pet Food Report Notification; [B6]
Sent: 1/6/2019 12:12:23 AM
Subject: Fromm Surf & Turf dry dog food; [B6] EON-375559
Attachments: 2060907-report.pdf; 2060907-attachments.zip

A PFR Report has been received and PFR Event [EON-375559] has been created in the EON System.

A "PDF" report by name "2060907-report.pdf" is attached to this email notification for your reference. Please note that all documents received in the report are compressed into a zip file by name "2060907-attachments.zip" and is attached to this email notification.

Below is the summary of the report:

EON Key: EON-375559

ICSR #: 2060907

EON Title: PFR Event created for Fromm Surf & Turf dry dog food; 2060907

AE Date	10/30/2018	Number Fed/Exposed	1
Best By Date		Number Reacted	1
Animal Species	Dog	Outcome to Date	Stable
Breed	Pit Bull		
Age	8 Years		
District Involved	PFR [B6] DO		

Product information

Individual Case Safety Report Number: 2060907

Product Group: Pet Food

Product Name: Fromm Surf & Turf dry dog food

Description: [B6] was slightly lethargic and upon veterinary examination, a new heart murmur was discovered. We scheduled an echocardiogram and she was diagnosed with Dilated Cardiomyopathy and a Mitral Valve Regurgitation. We sent her blood into UC Davis for a taurine test and her taurine levels were normal. It is suspected that her food caused this issue.

Submission Type: Initial

Report Type: Adverse Event (a symptom, reaction or disease associated with the product)

Outcome of reaction/event at the time of last observation: Stable

Number of Animals Treated With Product: 1

Number of Animals Reacted With Product: 1

Product Name	Lot Number or ID	Best By Date
Fromm Surf & Turf dry dog food		

Sender information

B6

USA

To view this PFR Event, please click the link below:

B6

To view the PFR Event Report, please click the link below:

B6

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From: PFR Event <pfpreventcreation@fda.hhs.gov>
To: Cleary, Michael *; HQ Pet Food Report Notification; [B6]
Sent: 1/3/2019 6:40:20 PM
Subject: GO Venison; [B6] EON-375313
Attachments: 2060813-report.pdf

A PFR Report has been received and PFR Event [EON-375313] has been created in the EON System.

A "PDF" report by name "2060813-report.pdf" is attached to this email notification for your reference.

Below is the summary of the report:

EON Key: EON-375313

ICSR #: 2060813

EON Title: PFR Event created for GO Venison; 2060813

AE Date	12/27/2018	Number Fed/Exposed	
Best By Date		Number Reacted	1
Animal Species	Dog	Outcome to Date	Stable
Breed	Retriever - Golden		
Age	5 Years		
District Involved	PFR-Foreign Firms DO		

Product information

Individual Case Safety Report Number: 2060813

Product Group: Pet Food

Product Name: GO Venison

Description: [B6] has been eating grain free GO Venison since September 2014 up until November 2018 when we switched her to Hills Science Diet large breed chicken and barley. Her Taurine level in November 2017 was [B6]. She had an echocardiogram on December 27th and has been diagnosed with Taurine deficient dilated cardiomyopathy. It is recommended that she take Taurine and l-carnitine supplements daily and have another Taurine blood test in 3 months and a recheck cardiology examination and echocardiogram in 6 months.

Submission Type: Initial

Report Type: Adverse Event (a symptom, reaction or disease associated with the product)

Outcome of reaction/event at the time of last observation: Stable

Number of Animals Reacted With Product: 1

Product Name	Lot Number or ID	Best By Date
GO Venison		

Sender information

B6

CAN

To view this PFR Event, please click the link below:

B6

To view the PFR Event Report, please click the link below:

B6

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From: PFR Event <pfpreventcreation@fda.hhs.gov>
To: Cleary, Michael *; HQ Pet Food Report Notification; [B6]
Sent: 1/3/2019 12:52:20 AM
Subject: Nutrisource Small and Medium Breed Puppy Grain Free Dog Food: [B6]
[B6] EON-375242
Attachments: 2060786-report.pdf

A PFR Report has been received and PFR Event [EON-375242] has been created in the EON System.

A "PDF" report by name "2060786-report.pdf" is attached to this email notification for your reference.

Below is the summary of the report:

EON Key: EON-375242

ICSR #: 2060786

EON Title: PFR Event created for Nutrisource Small and Medium Breed Puppy Grain Free Dog Food; 2060786

AE Date	01/02/2019	Number Fed/Exposed	1
Best By Date		Number Reacted	1
Animal Species	Dog	Outcome to Date	Unknown
Breed	Mixed (Dog)		
Age	9 Months		
District Involved	PFR-Kansas City DO		

Product information

Individual Case Safety Report Number: 2060786

Product Group: Pet Food

Product Name: Nutrisource Small and Medium Breed Puppy Grain Free Dog Food

Description: [B6] 9 month old labradoodle, has been fed Nutrisource grain free small/medium breed puppy food since weaning. For the past 4-5 months it had been noticed that [B6] was often short of breath and had a rapid heart rate. After being taken to the vet, a grade 2 murmur was found leading to the finding of cardiomyopathy. Awaiting echocardiogram. Advised by veterinarian to switch dog food to researched and approved brand because adverse health effects related to foods with lentils, such as the one [B6] was on.

Submission Type: Initial

Report Type: Adverse Event (a symptom, reaction or disease associated with the product)

Outcome of reaction/event at the time of last observation: Unknown

Number of Animals Treated With Product: 1

Number of Animals Reacted With Product: 1

Product Name	Lot Number or ID	Best By Date
Nutrisource Small and Medium Breed Puppy Grain Free Dog Food		

Sender information

B6

USA

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B6

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From: PFR Event <pfpreventcreation@fda.hhs.gov>
To: Cleary, Michael *; HQ Pet Food Report Notification; [B6]
Sent: 1/20/2019 3:20:22 PM
Subject: Ped: [B6] - EON-376960
Attachments: 2061494-report.pdf

A PFR Report has been received and PFR Event [EON-376960] has been created in the EON System.

A "PDF" report by name "2061494-report.pdf" is attached to this email notification for your reference.

Below is the summary of the report:

EON Key: EON-376960

ICSR #: 2061494

EON Title: PFR Event created for Ped; 2061494

AE Date	01/02/2019	Number Fed/Exposed	
Best By Date		Number Reacted	1
Animal Species	Dog	Outcome to Date	Better/Improved/Recovering
Breed	Shepherd Dog - German		
Age	3 Years		
District Involved	PFR-Kansas City DO		

Product information

Individual Case Safety Report Number: 2061494

Product Group: Pet Food

Product Name: Ped

Description: My 3 y/o German Shepard, was recently dx with dilated cardiomyopathy (DCM) and Congestive Heart Failure. I feel the dog food I fed her was Pedigree grain free, with main ingredients being, potatoes, peas and Legumes. She ate that food for about 2 years. During that time, she had a minor cough which progressed to a bad hacking cough. I took her to the vet and did a Chest x-ray which revealed an enlarged heart with fluid in her lungs. The first vet I took her to just prescribed an antibiotic and told me to follow up with a specialist in [B6] [B6] condition worsened to the point where I though I would have to put her down. I, immediately took her to another vet. She recognized [B6] condition, and administered Lasix immediately and observed [B6] for 4 hours. [B6] improved to the point I could take her home however, she will be on meds for

DCM and CHF for the rest of her life. I feel the dog food I fed **B6** is responsible for her condition.

Submission Type: Initial

Report Type: Adverse Event (a symptom, reaction or disease associated with the product)

Outcome of reaction/event at the time of last observation: Better/Improved/Recovering

Number of Animals Reacted With Product: 1

Product Name	Lot Number or ID	Best By Date
Ped		

Sender information

B6

USA

To view this PFR Event, please click the link below:

B6

To view the PFR Event Report, please click the link below:

B6

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From: PFR Event <pfpreventcreation@fda.hhs.gov>
To: Cleary, Michael *; HQ Pet Food Report Notification; [B6]
Sent: 1/24/2019 4:28:19 PM
Subject: Taste of the Wild Sierra Mountain: [B6] - EON-377360
Attachments: 2061702-report.pdf

A PFR Report has been received and PFR Event [EON-377360] has been created in the EON System.

A "PDF" report by name "2061702-report.pdf" is attached to this email notification for your reference.

Below is the summary of the report:

EON Key: EON-377360

ICSR #: 2061702

EON Title: PFR Event created for Taste of the Wild Sierra Mountain; 2061702

AE Date	07/01/2018	Number Fed/Exposed	5
Best By Date		Number Reacted	1
Animal Species	Dog	Outcome to Date	Died Euthanized
Breed	Bulldog		
Age	10 Years		
District Involved	PFR [B6] DO		

Product information

Individual Case Safety Report Number: 2061702

Product Group: Pet Food

Product Name: Taste of the Wild Sierra Mountain

Description: Diet for entire life consisted of grain free food. Started in July to have labored breathing with an occasional gag. Activity level had decreased. X-rays showed displacement of trachea. Vet treated for pneumonia due to white areas of lung. Finally got an echocardiogram and the diagnosis was Dilated Cardiomyopathy. Tests also showed his liver, spleen, and caudal vena cava were enlarged. The last week of life, he could not lay down but would just stand and pant. When it got so bad, I chose to let him be euthanized.

Submission Type: Initial

Report Type: Adverse Event (a symptom, reaction or disease associated with the product)

Outcome of reaction/event at the time of last observation: Died Euthanized

Number of Animals Treated With Product: 5

Number of Animals Reacted With Product: 1

Product Name	Lot Number or ID	Best By Date
Taste of the Wild Sierra Mountain		

Sender information

B6

USA

To view this PFR Event, please click the link below:

B6

To view the PFR Event Report, please click the link below:

B6

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From: PFR Event <pfpreventcreation@fda.hhs.gov>

To: Cleary, Michael *; HQ Pet Food Report Notification; [REDACTED] **B6**

Sent: 1/24/2019 4:20:22 PM

Subject: Wholesomes Grain-free Food for Dogs: Grain-Free/Gluten-Free. Chicken Meal & Chickpeas Formula Net Wt. 35lbs; [REDACTED] **B6** EON-377359

Attachments: 2061700-report.pdf; 2061700-attachments.zip

A PFR Report has been received and PFR Event [EON-377359] has been created in the EON System.

A "PDF" report by name "2061700-report.pdf" is attached to this email notification for your reference. Please note that all documents received in the report are compressed into a zip file by name "2061700-attachments.zip" and is attached to this email notification.

Below is the summary of the report:

EON Key: EON-377359

ICSR #: 2061700

EON Title: PFR Event created for Wholesomes Grain-free Food for Dogs: Grain-Free/Gluten-Free. Chicken Meal & Chickpeas Formula Net Wt. 35lbs; 2061700

AE Date	12/23/2018	Number Fed/Exposed	2
Best By Date		Number Reacted	1
Animal Species	Dog	Outcome to Date	Stable
Breed	Shepherd Dog - German		
Age	3 Years		
District Involved	PFR [REDACTED] B6 DO		

Product information

Individual Case Safety Report Number: 2061700

Product Group: Pet Food

Product Name: Wholesomes Grain-free Food for Dogs: Grain-Free/Gluten-Free. Chicken Meal & Chickpeas Formula Net Wt. 35lbs

Description: [REDACTED] **B6** began vomiting once a day for a few days, then it progressed to a couple of times a day. Her energy seemed to dissipate too...she was lethargic, depressed. I was contacting the vet via email and inquiring on ideas of what was going on. We put her on a bland rice/egg diet for a week, but no change was noted...other than

a new symptom occurred of her panting a lot. When [B6] started to noticeably lose weight, I immediately took her into the vet for a physical exam. She had dropped 9 lbs from the previous visit of two months earlier! The vet kept us there most of the day running blood work, etc. Everything came back fine. When xrays were performed, it was clear what the problem was. [B6] heart was clearly enlarged. Where it normally was supposed to be within 3 ribs, it was over 5 ribs and encroaching on her other organs! The vet immediately suspected it was the grain-free kibble (Wholesomes Food For Dogs Chickmeal and Chickpea formula: Grain-free/Gluten-free that I purchased at Tractor Supply) that I had her on...and she prescribed her heart meds, an antibiotic (going the remedial course as if peritonitis as a secondary diagnosis), and a medication to alleviate the nausea. We purchased Purina dogfood and immediately fed it to her...and she is still on it to this very day. [B6] is still throwing up occasionally, but the vet assured me that if her heart heals this will lessen.

Submission Type: Initial

Report Type: Adverse Event (a symptom, reaction or disease associated with the product)

Outcome of reaction/event at the time of last observation: Stable

Number of Animals Treated With Product: 2

Number of Animals Reacted With Product: 1

Product Name	Lot Number or ID	Best By Date
Wholesomes Grain-free Food for Dogs: Grain-Free/Gluten-Free. Chicken Meal & Chickpeas Formula Net Wt. 35lbs		

Sender information

[B6]

USA

To view this PFR Event, please click the link below:

[B6]

To view the PFR Event Report, please click the link below:

[B6]

=====
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From: Darcy Adin <dbadin@ncsu.edu>
To: Lisa Freeman; [REDACTED] **B6** jstem@ucdavis.edu; rfries@illinois.edu;
[REDACTED] **B6**
CC: Jones, Jennifer L
Sent: 4/18/2018 11:09:14 AM
Subject: Diet DCM Call

Hi All,

We had originally proposed [REDACTED] **B5**
[REDACTED] **B5** would work for you all.

I'm going to pick [REDACTED] **B5** - please let me know if you can talk then or if a different time is better. I'm available throughout the day.

Thanks Everyone!
Darcy

From: Freeman, Lisa <Lisa.Freeman@tufts.edu>
To: Jones, Jennifer L; Darcy Adin; Joshua A Stern; Fries, Ryan C; [REDACTED] **B6**
CC: Rotstein, David; Norris, Anne; DeLancey, Siobhan; Ceric, Olgica
Sent: 5/24/2018 7:21:01 PM
Subject: diet related DCM - a couple forms
Attachments: diet history form 5-24-18 external.doc; protocol NP 5-17-18.docx

Hi everyone

B5

I'm working on the editorial which will include a writable pdf version of the diet history form (Josh and Darcy – you'll be hearing from me soon)

Thanks
Lisa

Lisa M. Freeman, DVM, PhD, DACVN
Professor
Cummings School of Veterinary Medicine
Friedman School of Nutrition Science and Policy
Tufts Clinical and Translational Science Institute
Tufts University
www.petfoodology.org

From: Jones, Jennifer L [mailto:Jennifer.Jones@fda.hhs.gov]
Sent: Friday, April 20, 2018 3:50 PM
To: Darcy Adin <dbadin@ncsu.edu>; Freeman, Lisa <Lisa.Freeman@tufts.edu>; Joshua A Stern <jstern@ucdavis.edu>; Fries, Ryan C <rfries@illinois.edu>; [REDACTED] **B6** [REDACTED] **B6** [REDACTED] **B6**
Cc: Rotstein, David <David.Rotstein@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>
Subject: RE: hold-call with Dr. Adin re: DCM cases
Importance: High

My apologies for the repeat email. After further internal discussion, [REDACTED] **B5** [REDACTED] you can just email me a spreadsheet with the data.

Jennifer Jones, DVM
Veterinary Medical Officer
Tel: 240-402-5421



From: Jones, Jennifer L
Sent: Friday, April 20, 2018 1:19 PM
To: 'Darcy Adin' <dbadin@ncsu.edu>; Freeman, Lisa <lisa.freeman@tufts.edu>; Joshua A Stern <jstern@ucdavis.edu>; Fries, Ryan C <rfries@illinois.edu>; [REDACTED] **B6** [REDACTED] **B6** [REDACTED] **B6** [REDACTED] **B6**
Cc: Rotstein, David <David.Rotstein@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; DeLancey, Siobhan

<Siobhan.Delancey@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>

Subject: RE: hold-call with Dr. Adin re: DCM cases

Thank you again for joining us on the call and providing the information about your cases. To help us catalogue and potentially act on these adverse events, please file an official consumer complaint. Instructions on how to report a pet food report can be found at: <https://www.fda.gov/AnimalVeterinary/SafetyHealth/ReportaProblem/ucm182403.htm>. The complaint can be submitted through the Safety Reporting Portal: <https://www.safetyreporting.hhs.gov>. You can attach documents already created that compile your case data. We will review the data and may contact you for possible follow-up.

In the meantime, if you have a dog with DCM on a grain free diet that dies or is euthanized, please do not dispose of the animal's body or any remaining food. Please submit an individual consumer complaint for that dog, and mention that you have been instructed to submit the report by Vet-LIRN. We will review the complaint for potential follow-up and may be able to offer a necropsy. I attached a copy of our Vet-LIRN network procedures that describe how we operate. I also included a version for animal owners.

Please email or call me with any questions. Thank you again for your time and expertise,
Jen

Jennifer Jones, DVM
Veterinary Medical Officer
Tel: 240-402-5421



From: Darcy Adin [<mailto:dbadin@ncsu.edu>]

Sent: Thursday, April 19, 2018 11:00 AM

To: Freeman, Lisa <lisa.freeman@tufts.edu>; Joshua A Stern <jsstern@ucdavis.edu>; Fries, Ryan C <rfries@illinois.edu>;

B6

B6

B6

Jones, Jennifer L

<Jennifer.Jones@fda.hhs.gov>

Cc: Rotstein, David <David.Rotstein@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>

Subject: Fwd: hold-call with Dr. Adin re: DCM cases

Dear Dr. Jones,

We are all able to meet tomorrow, Friday April 20th at 11 am EST to discuss our clinical observations and concerns surrounding a potential relationship between grain-free canine diets and Dilated Cardiomyopathy.

Drs. B6 Freeman, B6 Fries and Stern - the call details are in the forwarded email below.

Just a brief introduction for the FDA group:

B6

Dr. Lisa Freeman is a Professor of Clinical Nutrition at Tufts University, College of Vet Med

B6

Dr. Ryan Fries is a Clinical Assistant Professor of Cardiology at Illinois, College of Vet Med

Dr. Josh Stern is an Associate Professor of Cardiology at UC Davis, College of Vet Med

Thank you everyone for making time in your schedule! I am looking forward to this.

Sincerely,
Darcy Adin

----- Forwarded message -----

From: **Jones, Jennifer L** <Jennifer.Jones@fda.hhs.gov>

Date: Thu, Apr 19, 2018 at 7:16 AM

Subject: hold-call with Dr. Adin re: DCM cases

To: "Rotstein, David" <David.Rotstein@fda.hhs.gov>, "Norris, Anne" <Anne.Norris@fda.hhs.gov>, "DeLancey, Siobhan" <Siobhan.Delancey@fda.hhs.gov>, Darcy Adin <dbadin@ncsu.edu>

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--

Darcy B. Adin, DVM, DACVIM (Cardiology)

Clinical Assistant Professor of Cardiology

North Carolina State University

NC State Veterinary Hospital

1060 William Moore Drive

Raleigh, NC 27607

919-513-6032

From: Rotstein, David </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=0A3B17EBFCF14A6CB8E94F322906BADD-DROTSTEI>
Sent: 5/11/2018 10:05:00 PM
To: Rotstein, David <David.Rotstein@fda.hhs.gov>; [REDACTED] **B6**
Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Burkholder, William <William.Burkholder@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.DeLancey@fda.hhs.gov>; Lovell, Randall A <Randall.Lovell@fda.hhs.gov>
Subject: Dilated Cardiomyopathy
Start: 5/18/2018 5:00:00 PM
End: 5/18/2018 6:00:00 PM
Recurrence: (none)
Meeting Status: Accepted

Required Attendees: Rotstein, David; [REDACTED] **B6** Jones, Jennifer L; Hartogensis, Martine; Carey, Lauren; Burkholder, William; Palmer, Lee Anne; Norris, Anne; DeLancey, Siobhan; Lovell, Randall A
Optional Attendees: Atkinson, Kristina Z

Good Afternoon,

Please join us for a discussion of dilated cardiomyopathy cases and current knowledge.

Agenda:

1. Roll Call and Introduction (CVM)
2. CVCA Case discussion (CVCA)
3. CVM/CVM Vet-LIRN Case Information (Vet-LIRN/DVPS/CERT)
4. Open Discussion

-- Do not delete or change any of the following text. --

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From: [redacted] B6
To: Peloquin, Sarah [redacted] B6
CC: Jones, Jennifer L; jstem@ucdavis.edu
Sent: 3/8/2019 12:37:17 AM
Subject: [redacted] B6
Attachments: [redacted] B6 [redacted] B6 3.7.19.Cardiology Echocardiogram Report
(recheck)sarah.peloquinFDA.hhs.gov.pdf

From: Rotstein, David </O=FDA/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=DAVID.ROTSTEIN>
To: CVM Vet-LRN-OR; Palmer, Lee Anne; Queen, Jackie L; Carey, Lauren
Sent: 10/22/2014 10:16:29 AM
Subject: EON-183693-ICSR-1036446 **B6** Purina Whisker licks
Attachments: 1036446-report.pdf.html

This is an interesting one!!!

11 YO NM

Product Information:

LIVER, WHEAT FLOUR, CORN GLUTEN MEAL, CHICKEN BY-PRODUCT MEAL, WATER, BEEF TALLOW PRESERVED WITH BHA, GLYCERIN, PHOSPHORIC ACID, CALCIUM SULFATE, HYROGENATED STARCH HYDROLYSATE, SALT, SOY PROTEIN ISOLATE, SORBIC ACID (PRESERVATIVE), ADDED COLOR (RED 40 AND OTHER COLOR), POTASSIUM PHOSPHATE, DRIED CHEESE POWDER, CHOLINE CHLORIDE, PROPIONIC ACID (PRESERVATIVE), TAURINE, ZINC SULFATE, FERROUS SULFATE, NIACIN, CALCIUM PANTOTHENATE, ETHOXYQUIN (PRESERVATIVE), VITAMIN SUPPLEMENTS (E, B12, D3), MANGANESE SULFATE, RIBOFLAVIN SUPPLEMENT, BIOTIN, FOLIC ACID, COPPER SULFATE, PYRIDOXINE HYDROCHLORIDE, THIAMINE MONONITRATE, MENADIONE SODIUM BISULFITE COMPLEX (SOURCE OF VITAMIN K ACTIVITY), CALCIUM IODATE, SODIUM SELENITE.

Analysis:

Moisture (maximum)34.00%
Crude Fat (minimum)8.50%
Crude Fiber (maximum)1.00%
Crude Protein (minimum)23.00%<BR< div>



Comment:

Site of manufacture- couldn't find this, but that won't tell us about the ingredients (e.g., glycerin).

Recommend:

MRx

Urine

Exposure history (make sure no other exposures)

Treat collection with lot code evaluation*

*If this case pans out and we have lot information, we may be able to get the district to find out about product manufacture/ingredient sources

David Rotstein, DVM, MPVM, Dipl. ACVP
CVM OSC/DC/ICERT
7519 Standish Place, RM 120

240-276-9213 (Office and Fax)

B6

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From: PFR Event [mailto:pfreventcreation@fda.hhs.gov]

Sent: Tuesday, October 21, 2014 6:20 PM

To: **B6**

Subject: Purina Whisker lickins: **B6**

A PFR Report has been received and PFR Event [EON-183693] has been created in the EON System

A "PDF" report by name "1036446-report.pdf" is attached to this email notification for your reference.

Below is the summary of the report

EON Key: EON-183693

EON Title: PFR Event created for Purina Whisker lickins chicken and cheese flavors soft and delicious; 1036446

To view this PFR Event, please click the link below:

B6

3

To view the PFR Event Report, please click the link below:

B6

Product information

Individual Case Safety Report Number: 1036446

Product Group: Pet Food

Product Name: Purina Whisker lickins, chicken and cheese flavors, soft and delicious

Description: In August I started to give Purina Whisker lickings soft treats on a regular basis (twice a day). After a month I noticed that **B6** had excessive urinations. Urinalysis on 9/9/14 showed 4+ glucose in urine, protein in urine - 30; bloodwork was normal (normal glucose). There have been no other changes in what he eats/takes. I stopped the treats. After a few week, the excessive urination stopped. recheck urinalysis on 10/21/14 showed no glucose.

Submission Type: Initial

Report Type: Adverse Event (a symptom, reaction or disease associated with the product)

Outcome of reaction/event at the time of last observation: Recovered Completely

Number of Animals Treated With Product: 1

Number of Animals Reacted With Product: 1

Sender information

B6

B6

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From: Jones, Jennifer L </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=0F6CA12EAA9348959A4CBB1E829AF244-JENNIFER.JO>
To: 'Jones, Jennifer L (Jennifer.Jones@fda.hhs.gov)'
CC: Norris, Anne
BCC: ajfascetti@ucdavis.edu; jstern@ucdavis.edu; Freeman, Lisa; ADIN,DARCY BRITTAIN; Steven Rosenthal
Sent: 6/27/2019 3:10:45 PM
Subject: FDA DCM Update Links-Live 6/27/2019

Good morning,
I wanted to let you know that FDA Consumer update about DCM when live this morning. Here are the links:
CVM Update

Web Update – DCM Investigation

Web QA (Updated)

Vet-LIRN Update

DCM Complaint Spreadsheet – 1/1/14 - 4/30/19

If you have any questions about the content, please direct them to: AskCVM@fda.hhs.gov

Thank you and take care,
Jen

Jennifer L. A. Jones, DVM

Veterinary Medical Officer
U.S. Food & Drug Administration
Center for Veterinary Medicine
Office of Research
Veterinary Laboratory Investigation and Response Network (Vet-LIRN)
8401 Muirkirk Road, G704
Laurel, Maryland 20708
new tel: 240-402-5421
fax: 301-210-4685
e-mail: jennifer.jones@fda.hhs.gov
Web: <http://www.fda.gov/AnimalVeterinary/ScienceResearch/ucm247334.htm>



From: Jones, Jennifer L </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=0F6CA12EAA9348959A4CBB1E829AF244-JENNIFER.JO>
To: Freeman, Lisa
Sent: 10/22/2018 12:58:18 PM
Subject: Re: JAVMA

Thank you very much for the heads up, Lisa.

From: Freeman, Lisa <Lisa.Freeman@tufts.edu>
Date: October 21, 2018 at 5:38:50 PM CDT
To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>
Subject: JAVMA

Hi Jen

I just wanted to give you a heads up that Darcy, Josh, Ryan, John Rush, and I had a Commentary accepted regarding the diet/DCM issue. It most summarizes the 2 separate categories – taurine and non-aurine dependent - and emphasizes that it may not just be grain-free diets but also boutique and exotic ingredient. Josh, Ryan, and Darcy include some preliminary data from their studies and we discuss possible nutritional causes of cardiac pathology. I also included a section on the importance of getting diet history on all patients. We refer people to your recent commentary in JAVMA as well.

I thought you'd want to know because we do, of course, encourage people to report any cases they see.

Thanks

Lisa

Lisa M. Freeman, DVM, PhD, DACVN
Board Certified Veterinary Nutritionist™
Professor
Cummings School of Veterinary Medicine
Friedman School of Nutrition Science and Policy
Tufts Clinical and Translational Science Institute
Tufts University
www.petfoodology.org

From: Freeman, Lisa <Lisa.Freeman@tufts.edu>
To: Jones, Jennifer L
Sent: 11/18/2018 8:25:14 PM
Subject: FW: JAVMA Manuscript (18-08-0453)
Attachments: 18-08-0453_COM.pdf

Hi Jen

Please see attached. I got permission from B6 to share this with you for internal use only. The planned publication date is Dec 1.

Kind regards,
Lisa

Lisa M. Freeman, DVM, PhD, DACVN
Board Certified Veterinary Nutritionist™
Professor
Cummings School of Veterinary Medicine
Friedman School of Nutrition Science and Policy
Tufts Clinical and Translational Science Institute
Tufts University
www.petfoodology.org

From: Julie McLearn <JMcLearn@avma.org>
Sent: Friday, November 16, 2018 5:25 PM
To: Freeman, Lisa <lisa.freeman@tufts.edu>
Subject: FW: JAVMA Manuscript (18-08-0453)

Hi Dr. Freeman,

The final PDF is attached.

Kind Regards,
Julie

Julie L. McLearn
Senior Production Coordinator | Publications
American Veterinary Medical Association

www.avma.org



From: Norris, Anne </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=891982B43D804C9396555BAF36C73DE1-ANNE.NORRIS>
To: Carey, Lauren; Jones, Jennifer L; DeLancey, Siobhan; Hartogensis, Martine; Burkholder, William; Rotstein, David; Palmer, Lee Anne; Peloquin, Sarah
CC: Ceric, Olgica; Reimschuessel, Renate
Sent: 12/10/2018 7:03:16 PM
Subject: RE: FYI-DCM Article-FW: article

S.T. wrote about the JAVMA paper: <http://truthaboutpetfood.com/diet-associated-heart-disease-in-dogs-what-we-know/>

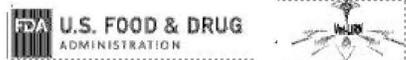
From: Carey, Lauren
Sent: Monday, December 10, 2018 11:38 AM
To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>; Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>; Burkholder, William <William.Burkholder@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Peloquin, Sarah <Sarah.Peloquin@fda.hhs.gov>
Cc: Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>
Subject: RE: FYI-DCM Article-FW: article

Did they mention any diets? Just curious how much this matches our reported products.

From: Jones, Jennifer L
Sent: Friday, December 07, 2018 8:07 AM
To: Norris, Anne <Anne.Norris@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>; Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>; Burkholder, William <William.Burkholder@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Peloquin, Sarah <Sarah.Peloquin@fda.hhs.gov>
Cc: Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>
Subject: FYI-DCM Article-FW: article

From Dr. Adin.

Jennifer Jones, DVM
Veterinary Medical Officer
Tel: 240-402-5421



From: ADIN, DARCY BRITTAIN <adind@ufl.edu>
Sent: Friday, December 07, 2018 7:49 AM
To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>
Subject: article

Hi Jen,

Just thought I'd share out diet DCM paper from NCSU with you. It is available for sharing but won't be in the journal til 2019.

It was great to talk this week and hear all the progress you've made!

Take care
Darcy

Darcy B. Adin, DVM, Diplomate ACVIM (Cardiology)
Clinical Associate Professor, Cardiology
University of Florida
College of Veterinary Medicine
PO Box 100136
2015 SW 16th Ave
Gainesville, FL 32608
(352) 294-8606

FDA Investigation into Potential Link between Certain Diets and Canine Dilated Cardiomyopathy

Updated February 19, 2019

In July 2018, the FDA [announced](#) that it had begun investigating reports of canine dilated cardiomyopathy (DCM) in dogs eating certain pet foods containing a high proportion of peas, lentils, other legume seeds (pulses), and/or potatoes in various forms (whole, flour, protein, etc.) as main ingredients (listed within the first 10 ingredients in the ingredient list, before vitamins and minerals). Many of these case reports included breeds of dogs not previously known to have a genetic predisposition to the disease. The FDA's Center for Veterinary Medicine (CVM) and the Veterinary Laboratory Investigation and Response Network (Vet-LIRN), a collaboration of government and veterinary diagnostic laboratories, continue to investigate this potential association. Based on the data collected and analyzed thus far, the agency believes that the potential association between diet and DCM in dogs is a complex scientific issue that may involve multiple factors.

We understand the concern that pet owners have about these reports: the illnesses can be severe, even fatal, and many cases report eating "grain-free" labeled pet food. The FDA is using multiple science-based investigative tools as it strives to learn more about the evolution of this outbreak of DCM and its potential link to certain diets or ingredients.

This update does not include reports received in December and January due to the lapse in appropriations from December 22, 2018, to January 25, 2019. Because the Anti-Deficiency Act does not except activities that are solely related to protecting "animal health," FDA was not able to continue its investigation during that time.

Cases Reported to FDA

For the purposes of this investigation, the FDA defines a "case" as an illness reported to FDA involving a dog or cat that includes a diagnosis of DCM. Many of the reports submitted to the FDA included very supportive clinical information, including echocardiogram results, cardiology/veterinary records, and detailed diet histories. The numbers below only include reports in which a veterinarian made a formal diagnosis of DCM. We did not include, in these numbers, the many general cardiac reports submitted to the FDA that did not have a DCM diagnosis. This case information is still valuable, as it may show heart changes that occur before a dog develops full-blown DCM. (Please see the Vet-LIRN DCM Investigative Update for more technical information on the reported cases, including those without a formal diagnosis of DCM).

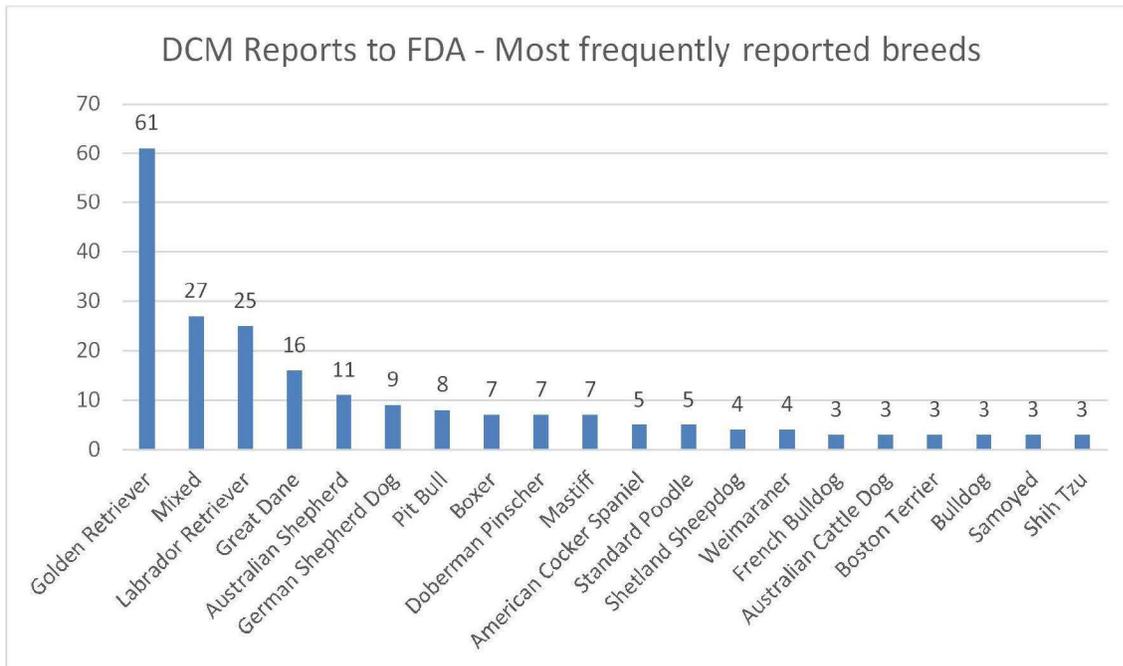
Between January 1, 2014 and November 30, 2018, the FDA received 300 reports of DCM (294 canine reports, 6 feline reports). Approximately 276 of these were reported after the July public notification about FDA's investigation (273 canine reports, 3 feline reports). Some of these reports involved more than one affected animal from the same household. The breakdown of reported illnesses below reflects the number of individual animals affected.

Animal numbers in DCM Reports received between January 1, 2014 and November 30, 2018

	Number of reactions	Number of deaths
Dogs	325	74
Cats*	10	2

*Cats are generally more likely to develop hypertrophic cardiomyopathy (a heart disease)

Dilated cardiomyopathy is recognized as a genetic condition in dogs, typically in large or giant breeds, such as the Doberman Pinscher, Great Dane, or the Irish Wolfhound. It is also seen in Cocker Spaniels. It is believed to be less common in small and medium breed dogs. We suspect that cases are underreported because animals are typically treated symptomatically, and testing and treatment can be complex and costly to owners. Because the occurrence of different diseases in dogs and cats is not routinely tracked and there is no widespread surveillance system like the Centers for Disease Control has for human health, we do not have a measure of the occurrence of disease apart from what is reported to the FDA.



Additional breeds with more than one report include Afghan Hound, Beagle, Dalmatian, English Springer Spaniel, Flat-coated Retriever, Hound (unspecified), Maltese, Miniature Schnauzer, Pomeranian, Portuguese Water Dog, Pug, Retriever (unspecified), Rhodesian Ridgeback, Rottweiler, Saluki, Vizsla, and Yorkshire Terrier.

Genetic forms of DCM tend to affect male large and giant breed dogs starting in middle to older age. DCM cases reported to FDA CVM have involved a wide range of dog breeds, ages and weights. There have been a greater proportion of males than females, consistent with what is seen in genetic forms. The significance of this is unknown, but it may be that some cases are genetic in origin or a combination of diet and genetic tendencies.

Table 1: Mean Age and Weight - DCM Cases in Dogs Reported to FDA-CVM

Dogs	Mean	Range
Age (years)	6.5	0.42 -16
Weight (lbs.)	68	8 – 212

Table 2: Mean Age and Weight - DCM Cases in Cats Reported to FDA-CVM

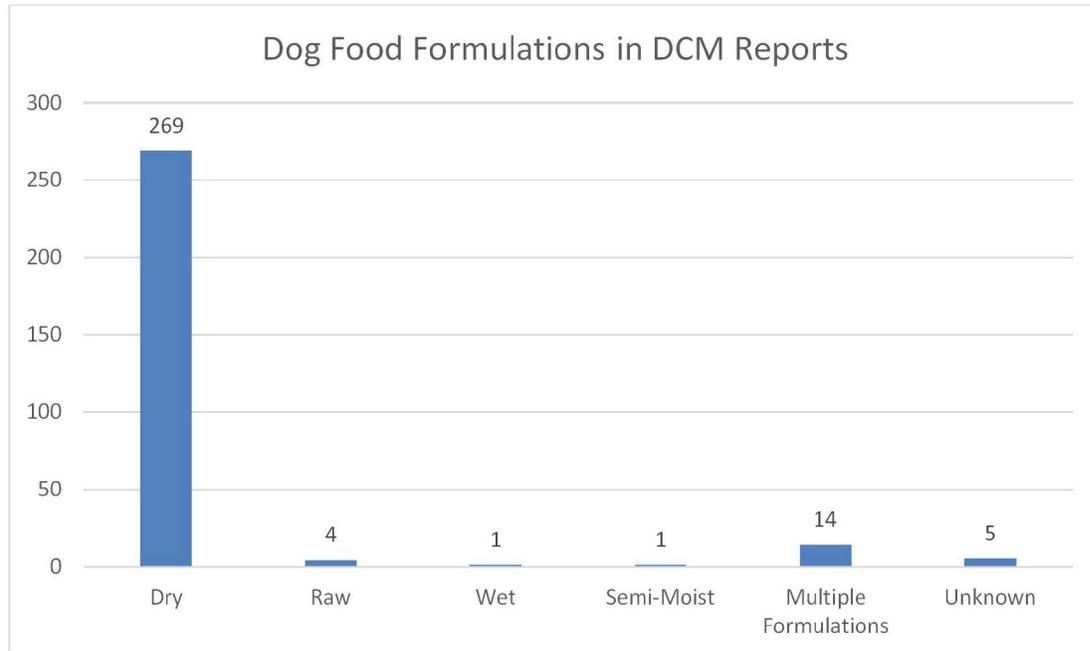
Cats	Mean	Range
Age (years)	5.5	0.4- 12
Weight (lbs)	11	7 -13

Table 3: Sex of DCM cases reported to FDA-CVM by species (%)

Sex (% of cases)	Male	Female
Dogs	59	41
Cats	60	40

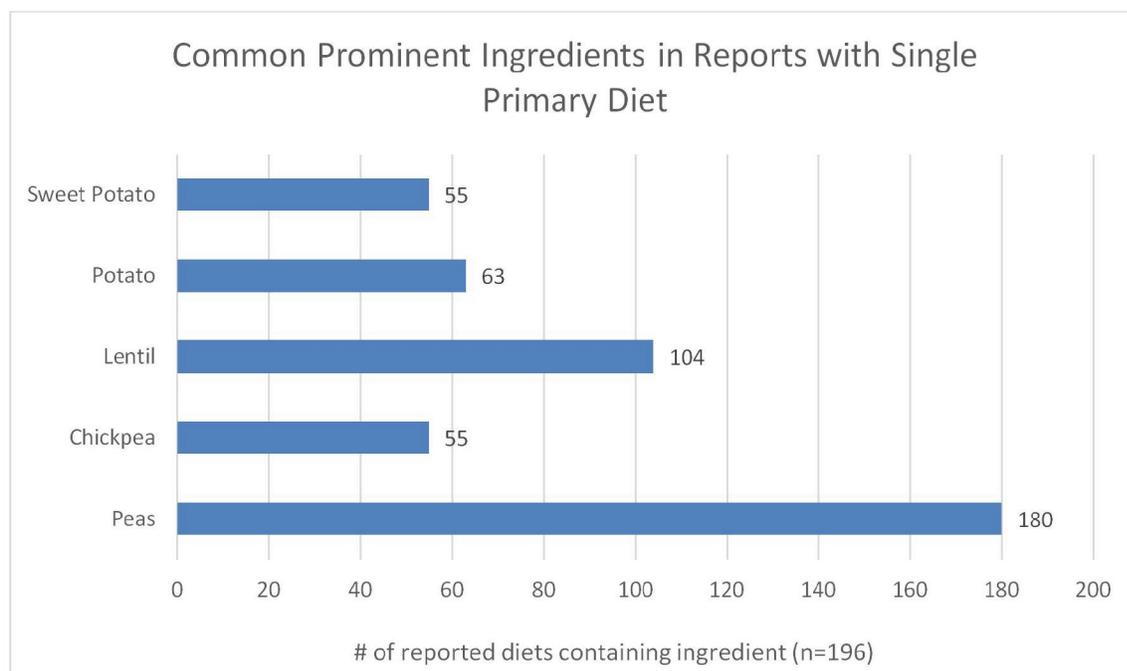
Diet Information from Reported Cases

Review of the canine reports shows that the majority of reports were for dry dog food formulations, but raw food, semi-moist food, and wet food were also represented.



Based on analysis of the 196 DCM reports to FDA in which dogs were fed only a single, primary diet (i.e., didn't eat multiple food products, excluding treats), approximately 90 percent of the foods were reported to be labeled "grain-free" (or labeled as zero-grain) and approximately 10 percent ate diets

containing grains, some of which were vegan or vegetarian. A large proportion of the reported diets in DCM cases contained peas and/or lentils.



Animal protein sources in the reported diets varied widely. Of the 191 reports with a single primary diet that contained animal protein (rather than being vegan/vegetarian), 31 percent contained more than one animal protein source. The majority of diets containing animal protein included fish, eggs, lamb or chicken. No one animal protein source was predominant.

Product Testing

Before the July 2018 DCM Update, FDA/Vet-LIRN had tested multiple products for minerals and metals (Ca, Mg, P, Fe, Co, Cu, Zn, Se, I) and amino acids including taurine, cysteine, and methionine. That product testing did not reveal any abnormalities.

Since the July 2018 DCM Update, Vet-LIRN tested both grain-free labeled and grain-containing products for the following:

- protein, fat, moisture
- crude fiber, total dietary fiber, soluble fiber, insoluble fiber
- total starch, resistant starch
- cystine, methionine, and taurine

The average percent protein, fat, total taurine, total cystine, total methionine, total methionine-cystine, and resistant starch content on a dry matter basis (in other words, after removing all moisture content) were similar for both grain-free labeled and grain-containing products. For more details, please see the Vet-LIRN DCM Update.

Taurine & Amino Acids

Nutritional research indicates that taurine is generally not considered an essential amino acid for dogs because they can synthesize taurine from cysteine and methionine. Nearly all of the grain-free products had methionine-cystine values above the minimum nutritional requirement of 0.65 percent for adult maintenance food for dogs published in the AAFCO Official Publication (OP).

The FDA is still gathering information in order to better understand if (and how) taurine metabolism (both absorption and excretion) may have a role in these reports of canine dilated cardiomyopathy.

Diagnostic Testing – Vet-LIRN

Vet-LIRN has interviewed 85 owners of affected dogs and cats to document the pets' complete dietary history and to explore any other factors that could have potentially contributed to development of DCM, such as environmental factors like heavy metal exposure or poisonous plant ingestion.

In addition, Vet-LIRN has contracted with a network lab to collect blood (whole blood and plasma), urine, feces, and DNA from dogs without a known breed predisposition to DCM (as a point of comparison) and to send to Vet-LIRN for testing.

Vet-LIRN has reviewed results of 15 gross necropsies from dogs with suspected heart disease, including ten necropsies that Vet-LIRN coordinated from cases reported through the FDA Safety Reporting Portal. The gross necropsies were performed by either veterinarians or veterinary pathologists, and Vet-LIRN is currently processing the tissues for histopathology. A board certified veterinary pathologist will review the histopathology slides.

Golden Retrievers

Past publications and research suggest that Golden Retrievers may be genetically predisposed to taurine deficiency, which is well-documented as potentially leading to DCM.

Veterinary cardiologist Dr. Joshua Stern from the University of California at Davis has been studying the rise in cases of DCM in Golden Retrievers, including a potential dietary link. Many cases of DCM in Golden Retrievers are taurine-deficient. Pet owners who suspect their Golden Retrievers may be affected may wish to consult their veterinarian to discuss checking taurine levels or conducting an echocardiogram.

Collaboration

When unprecedented events such as these occur, the FDA often consults with stakeholders across the animal health community to help fill any knowledge gaps that may help inform its investigation. These collaborations can help provide pieces to complete the puzzle and allow us to gain a better understanding of what happened.

Veterinary Community

FDA veterinarians have been working with the veterinary community to exchange information about existing cases and the type of clinical information that is most helpful to the investigation. We are also consulting with a cadre of board-certified veterinary cardiologists and nutritionists to learn more about the presentation of these cases and how they respond to treatment.

Chesapeake Veterinary Cardiology Associates (CVCA), a multi-location veterinary cardiology practice based predominantly in the Mid-Atlantic states, has provided comprehensive records for some DCM cases (including medical records, owner interviews, and diagnostic samples from pets with DCM diagnosed with an echocardiogram by a board-certified cardiologist) to the Vet-LIRN network for further

testing. These case records include imaging studies of the animal's hearts, comprehensive dietary histories, diagnostic and treatment records, as well as outcomes of the cases.

FDA veterinarians have been working with Drs. Lisa Freeman of Tufts University, Joshua Stern of UC Davis and Darcy Adin of the University of Florida to learn more about their research findings and the cases they've encountered. The three were contributing authors to a paper published in Journal of American Veterinary Medical Association in December 2018, "[Diet-associated dilated cardiomyopathy in dogs: what do we know?](#)"

Pet Owners

As animal lovers and pet owners, FDA employees understand that the sudden onset of a life-threatening disease in a previously healthy pet can be devastating. The FDA is incredibly grateful to those pet owners who have agreed to be interviewed and given permission for their veterinarians to share medical records and diagnostic samples, including blood, serum and tissue. The agency is especially appreciative when pet owners make the difficult decision to provide tissues for analysis when a beloved pet passes away. The FDA believes that the information gained will help the FDA to understand the specific changes that are happening in the cardiovascular system and how they may relate to diet.

Industry

Another puzzling aspect of the recent spike in DCM cases is that they have occurred just in the last few years. The FDA is working with the pet food industry to better understand whether changes in ingredients, ingredient sourcing, processing or formulation may have contributed to the development of DCM.

What you can do

The FDA is open to additional opportunities for collaboration and welcomes the submission of any information that may aid in our investigation. Detailed instructions for submitting case information can be found on "[How to Report a Pet Food Complaint.](#)"

Pet Owners

If a dog is showing possible signs of DCM or other heart conditions, including decreased energy, cough, difficulty breathing and episodes of collapse, you should contact your veterinarian as soon as possible. If the symptoms are severe and your veterinarian is not available, you may need to seek emergency veterinary care. Your veterinarian may ask you for a thorough dietary history, including all the foods (including treats) the dog has eaten.

Veterinarians

CVM encourages veterinary professionals to report well-documented cases of DCM in dogs suspected of having a link to diet by using the electronic [Safety Reporting Portal](#) or calling their state's [FDA Consumer Complaint Coordinators](#). The more information you are able to provide, particularly about feeding history, medical records, and diagnostic testing, the better. Detailed instructions can be found on "[How to Report a Pet Food Complaint.](#)" Technical veterinary information that may aid veterinarians can be found in our Vet-LIRN Update - February 2019.

Industry

The FDA looks to industry organizations and pet food manufacturers to continue their own investigations to help shed light on potential issues with formulas or ingredients.

What's Next

The FDA is continuing to investigate and gather more information in an effort to identify the specific dietary link to development of DCM and will provide updates to the public as information develops.

Additional Information:

- FDA Provides Update on Investigation into Potential Connection Between Diet and Cases of Canine Heart Disease (February 2019)
- Vet-LIRN DCM Investigative Update (February 2019)
- [FDA Investigating Potential Connection Between Diet and Cases of Canine Heart Disease \(July 2018\)](#)
- Journal of American Veterinary Medical Association - [Diet-associated dilated cardiomyopathy in dogs: what do we know? \(December 2018\)](#)

Document properties

Author: Norris, Anne
Template: Normal.dotm
Page count: 3
Paragraph count: 98
Line count: 231
Word count: 2170
Character count (spaces excluded): 11975
Character count (spaces included): 14091

Document Comments
Total Comments: 5

Author: Norris, Anne
Date: 12/19/2018 8:10:00 PM
Initial: NA
Range: hyperlink
Scope: Vet-LIRN DCM Investigative Update

Author: Norris, Anne
Date: 12/19/2018 8:00:00 PM
Initial: NA
Range: hyperlink
Scope: Vet-LIRN DCM Update.

Author: Norris, Anne
Date: 12/19/2018 6:28:00 PM
Initial: NA
Range: hyperlink
Scope: Vet-LIRN Update - February 2019

Author: Norris, Anne
Date: 12/18/2018 2:50:00 PM
Initial: NA
Range: Hyperlink to CVM Update
Scope: FDA Provides Update on Investigation into Potential Connection
Between Diet and Cases of Canine Heart Disease (February 2019)

Author: Norris, Anne
Date: 12/18/2018 2:50:00 PM
Initial: NA
Range: Hyperlink to Vet-LIRN update
Scope: Vet-LIRN DCM Investigative Update (February 2019)

From: Norris, Anne </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=891982B43D804C9396555BAF36C73DE1-ANNE.NORRIS>
To: Solomon, Steven M; Flynn, William T; Forfa, Tracey; Schell, Timothy; Jones, Jennifer L; Palmer, Lee Anne; Burkholder, William; Carey, Lauren; DeLancey, Siobhan; Hartogensis, Martine; Murphy, Jeanette; Dewitt, Susan J; Cepeda, Sandra; Steinberg, Nadine; Rotstein, David; Moxley, Shera
Sent: 5/29/2019 8:38:59 PM
Subject: RE: Checkpoint on DCM
Attachments: COMMSPLAN_DCM_Summer_2019.docx

To help facilitate discussion, attached is the draft communications plan for the next DCM public update. Lee Anne, Lauren, and Jen will share some data points/high-level takeaways via WebEx tomorrow.

-----Original Appointment-----

From: Solomon, Steven M
Sent: Monday, May 20, 2019 10:36 AM
To: Solomon, Steven M; Flynn, William T; Forfa, Tracey; Norris, Anne; Schell, Timothy; Jones, Jennifer L; Palmer, Lee Anne; Burkholder, William; Carey, Lauren
Cc: DeLancey, Siobhan; Hartogensis, Martine; Murphy, Jeanette; Dewitt, Susan J; Cepeda, Sandra; Steinberg, Nadine; Rotstein, David
Subject: Checkpoint on DCM
When: Thursday, May 30, 2019 12:00 PM-1:00 PM (UTC-05:00) Eastern Time (US & Canada).
Where: CVM 7500 Conf E473 and WebEx

Purpose: Discuss currently available DCM data, pending updates, and key messaging in forthcoming communications.

Meeting materials forthcoming.

Apologies for the lunchtime meeting, but schedules were tight.

JOIN WEBEX MEETING

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B6

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From: Jones, Jennifer L </o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0f6ca12eaa9348959a4cbb1e829af244-Jennifer.Jo>
To: Norris, Anne
CC: Peloquin, Sarah
Sent: 6/13/2019 1:31:11 PM
Subject: RE: Vet-LIRN Update on DCM

Good morning Anne,
I finished with the Vet-LIRN updates, and they're ready for your team.
Please let me know if you want to meet ahead of tomorrow's meeting to discuss the content.
Thanks again,
Jen

Jennifer Jones, DVM
Veterinary Medical Officer
Tel: 240-402-5421



From: Jones, Jennifer L
Sent: Wednesday, June 05, 2019 9:38 AM
To: Norris, Anne <Anne.Norris@fda.hhs.gov>
Subject: RE: Vet-LIRN Update on DCM

Thank you :)

Jennifer Jones, DVM
Veterinary Medical Officer
Tel: 240-402-5421



From: Norris, Anne
Sent: Wednesday, June 05, 2019 9:37 AM
To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>
Subject: RE: Vet-LIRN Update on DCM

Sure, no problem at all. Thank you and enjoy

B6

From: Jones, Jennifer L
Sent: Wednesday, June 5, 2019 9:33 AM
To: Norris, Anne <Anne.Norris@fda.hhs.gov>
Subject: RE: Vet-LIRN Update on DCM

Thanks, Anne. I'll take a look and work on the updates.
Can I get it to you by COB Thursday?

B6

Jennifer Jones, DVM
Veterinary Medical Officer
Tel: 240-402-5421



From: Norris, Anne
Sent: Wednesday, June 05, 2019 9:23 AM

To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>

Subject: Vet-LIRN Update on DCM

Hi Jen,

Wanted to circle back after Dr. Solomon's DCM briefing. You did a great job! I think he has a much better appreciation for where things stand now.

I mocked up a new document for the June DCM Vet-LIRN Update using the last Vet LIRN-Update as the basis and thought you could edit/add/subtract as you wish.

[Draft – Vet-LIRN DCM Update for June 2019](#)

Happy to discuss/help however I can, please let me know! If at all possible, I think we'd like to have drafts ready to share with the group by the middle of next week. Is that workable for you?

Thanks!

Anne

Anne Norris

Strategic Initiatives

Office of the Director

Center for Veterinary Medicine

U.S. Food & Drug Administration

O: 240-402-0132

B6

Anne.Norris@fda.hhs.gov



From: Freeman, Lisa <Lisa.Freeman@tufts.edu>
To: Jones, Jennifer L
CC: Norris, Anne
Sent: 6/27/2019 3:19:56 PM
Subject: Re: FDA DCM Update Links-Live 6/27/2019
Attachments: image005.png; image006.png

Hi Jen. I heard rumors of something coming so thanks for letting me know. Did you hear from B6 about our preliminary data presented at ACVIM? Let me know if you'd like to discuss
Thanks. Lisa

Sent from my iPhone

On Jun 27, 2019, at 11:14 AM, Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov> wrote:

Good morning,
I wanted to let you know that FDA Consumer update about DCM when live this morning. Here are the links:
[CVM Update](#)

[Web Update – DCM Investigation](#)

[Web QA \(Updated\)](#)

[Vet-LIRN Update](#)

[DCM Complaint Spreadsheet – 1/1/14 - 4/30/19](#)

If you have any questions about the content, please direct them to: AskCVM@fda.hhs.gov

Thank you and take care,
Jen

Jennifer L. A. Jones, DVM

Veterinary Medical Officer
U.S. Food & Drug Administration
Center for Veterinary Medicine
Office of Research
Veterinary Laboratory Investigation and Response Network (Vet-LIRN)
8401 Muirkirk Road, G704
Laurel, Maryland 20708
new tel: 240-402-5421
fax: 301-210-4685
e-mail: jennifer.jones@fda.hhs.gov
Web: <http://www.fda.gov/AnimalVeterinary/ScienceResearch/ucm247334.htm>
<[image005.png](#)> <[image006.png](#)>

From: Rotstein, David </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=0A3B17EBFCF14A6CB8E94F322906BADD-DROTSTEI>
To: Norris, Anne; Jones, Jennifer L; Palmer, Lee Anne; Carey, Lauren
CC: DeLancey, Siobhan; Hartogensis, Martine
Sent: 7/2/2018 7:58:22 PM
Subject: RE: Redacted complaint file for the DCM webposting

Anne,

My understanding was that [REDACTED] reported.

Dave

David Rotstein, DVM, MPVM, Dipl. ACVP
CVM Vet-LIRN Liaison
CVM OSC/DC/CERT
7519 Standish Place

[REDACTED] (BB)



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From: Norris, Anne
Sent: Monday, July 02, 2018 3:57 PM
To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>
Cc: DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>; Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>
Subject: FW: Redacted complaint file for the DCM webposting
Importance: High

Hi Jen and Dave,

Looks like Lee Anne and Lauren are both out, so I'm hoping you can help

[REDACTED] B5

[REDACTED] B5

Thanks,
Anne

From: Palmer, Lee Anne
Sent: Friday, June 15, 2018 8:51 AM
To: Norris, Anne <Anne.Norris@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>; Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>
Subject: Redacted complaint file for the DCM webposting

Hi – all set with the complaint file. I hope to have a last look today at the DCM piece. Hopefully this AM, but may creep into the afternoon at this point...

Thanks!

Lee Anne

Lee Anne M. Palmer, VMD, MPH

Team Leader HFV-242, Supervisory VMO

Center for Veterinary Medicine

OSC, Division of Veterinary Product Safety

U.S. Food and Drug Administration

Tel: 240-402-5767

Leeanne.palmer@fda.hhs.gov



From: Rotstein, David </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=0A3B17EBFCF14A6CB8E94F322906BADD-DROTSTEI>
To: Norris, Anne; Jones, Jennifer L; Palmer, Lee Anne; Carey, Lauren
CC: DeLancey, Siobhan; Hartogensis, Martine
Sent: 7/2/2018 8:01:56 PM
Subject: RE: Redacted complaint file for the DCM webposting

B5

David Rotstein, DVM, MPVM, Dipl. ACVP
CVM Vet-LIRN Liaison
CVM OSC/DC/CERT
7519 Standish Place

B6 (BB)



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U.S. Food and Drug Administration

Tel: 240-402-5767

Leeanne.palmer@fda.hhs.gov



From: Norris, Anne </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=891982B43D804C9396555BAF36C73DE1-ANNE.NORRIS>
To: Rotstein, David; Jones, Jennifer L; Palmer, Lee Anne; Carey, Lauren
CC: DeLancey, Siobhan; Hartogensis, Martine
Sent: 7/2/2018 8:04:39 PM
Subject: RE: Redacted complaint file for the DCM webposting

Thanks, Dave

B5

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From: Rotstein, David
Sent: Monday, July 02, 2018 3:58 PM
To: Norris, Anne <Anne.Norris@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>
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Tel: 240-402-5767

Leeanne.palmer@fda.hhs.gov



From: Rotstein, David </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=0A3B17EBFCF14A6CB8E94F322906BADD-DROTSTEI>
To: Norris, Anne; Jones, Jennifer L; Palmer, Lee Anne; Carey, Lauren
CC: DeLancey, Siobhan; Hartogensis, Martine
Sent: 7/2/2018 8:07:12 PM
Subject: RE: Redacted complaint file for the DCM webposting

Anne,

B5

Others may have differing thoughts.

David Rotstein, DVM, MPVM, Dipl. ACVP
CVM Vet-LIRN Liaison
CVM OSC/DC/CERT
7519 Standish Place

B6

(BB)



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From: Norris, Anne
Sent: Monday, July 02, 2018 4:05 PM
To: Rotstein, David <David.Rotstein@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>
Cc: DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>; Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>
Subject: RE: Redacted complaint file for the DCM webposting

Thanks, Dave.

B5

B5

From: Rotstein, David
Sent: Monday, July 02, 2018 3:58 PM
To: Norris, Anne <Anne.Norris@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>
Cc: DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>; Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>
Subject: RE: Redacted complaint file for the DCM webposting

Anne,

My understanding was that [redacted] reported.

B5

Dave

David Rotstein, DVM, MPVM, Dipl. ACVP
CVM Vet-LIRN Liaison
CVM OSC/DC/CERT
7519 Standish Place

B6

BB)



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From: Norris, Anne

Sent: Monday, July 02, 2018 3:57 PM

To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>

Cc: DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>; Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>

Subject: FW: Redacted complaint file for the DCM webposting

Importance: High

Hi Jen and Dave,

Looks like Lee Anne and Lauren are both out, so I'm hoping you can help.

B5

B5

Thanks,
Anne

From: Palmer, Lee Anne

Sent: Friday, June 15, 2018 8:51 AM

To: Norris, Anne <Anne.Norris@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>; Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>

Subject: Redacted complaint file for the DCM webposting

Hi – all set with the complaint file. I hope to have a last look today at the DCM piece. Hopefully this AM, but may creep into the afternoon at this point...

Thanks!

Lee Anne

Lee Anne M. Palmer, VMD, MPH

Team Leader HFV-242, Supervisory VMO

Center for Veterinary Medicine
OSC, Division of Veterinary Product Safety
U.S. Food and Drug Administration
Tel: 240-402-5767
Leeanne.palmer@fda.hhs.gov



From: Carey, Lauren </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=F0226BD682844FA2B71EA3750D4FCB82-LAUREN.CARE>
To: Rotstein, David; Norris, Anne; Jones, Jennifer L; Palmer, Lee Anne
CC: DeLancey, Siobhan; Hartogensis, Martine
Sent: 7/2/2018 8:30:55 PM
Subject: RE: Redacted complaint file for the DCM webposting

Hi Anne,

I'm in today, just with intermittent network connectivity at the moment. **B5**
B5 so I'm not any help even though I'm here. Lee Anne will be back on Thursday and should be able to help then, but I'm not sure if that decision was on her end or not.

Thanks,
Lauren

From: Rotstein, David
Sent: Monday, July 02, 2018 4:07 PM
To: Norris, Anne <Anne.Norris@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>
Cc: DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>; Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>
Subject: RE: Redacted complaint file for the DCM webposting

Anne,

B5

Others may have differing thoughts.

David Rotstein, DVM, MPVM, Dipl. ACVP
CVM Vet-LIRN Liaison
CVM OSC/DC/CERT
7519 Standish Place

B6

BB)



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From: Norris, Anne
Sent: Monday, July 02, 2018 4:05 PM

To: Rotstein, David <David.Rotstein@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>
Cc: DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>; Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>
Subject: RE: Redacted complaint file for the DCM webposting

Thanks, Dave

B5

B5

From: Rotstein, David
Sent: Monday, July 02, 2018 3:58 PM
To: Norris, Anne <Anne.Norris@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>
Cc: DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>; Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>
Subject: RE: Redacted complaint file for the DCM webposting

Anne,

My understanding was that

B5

Dave

David Rotstein, DVM, MPVM, Dipl. ACVP
CVM Vet-LIRN Liaison
CVM OSC/DC/CERT
7519 Standish Place

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From: Norris, Anne
Sent: Monday, July 02, 2018 3:57 PM
To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>
Cc: DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>; Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>
Subject: FW: Redacted complaint file for the DCM webposting
Importance: High

Hi Jen and Dave,

Looks like Lee Anne and Lauren are both out, so I'm hoping you can help

B5

B5

Thanks,

Anne

From: Palmer, Lee Anne

Sent: Friday, June 15, 2018 8:51 AM

To: Norris, Anne <Anne.Norris@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>; Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>

Subject: Redacted complaint file for the DCM webposting

Hi – all set with the complaint file. I hope to have a last look today at the DCM piece. Hopefully this AM, but may creep into the afternoon at this point...

Thanks!

Lee Anne

Lee Anne M. Palmer, VMD, MPH

Team Leader HFV-242, Supervisory VMO

Center for Veterinary Medicine

OSC, Division of Veterinary Product Safety

U.S. Food and Drug Administration

Tel: 240-402-5767

Leeanne.palmer@fda.hhs.gov



From: Hartogensis, Martine </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=02DF91D554D34B948FC58433D0E42073-MHARTOGE>
To: Palmer, Lee Anne; Carey, Lauren; Jones, Jennifer L; Rotstein, David
CC: Norris, Anne; DeLancey, Siobhan; Putnam, Juli
Sent: 10/9/2018 6:59:05 PM
Subject: RE: Media Request - DCM - WUSA9 inquiry

Hi DCM Team!

See the media request below. This is mostly for Lee Anne's group to update numbers (if you have them), but Jen and Dave, please feel free to revise as well. I had one edit in red.

Thanks very much in advance!

Martine

From: Haake, Lindsay
Sent: Tuesday, October 09, 2018 2:48 PM
To: Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>
Cc: Norris, Anne <Anne.Norris@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>; Putnam, Juli <JuliAnn.Putnam@fda.hhs.gov>
Subject: FW: Media Request - DCM - WUSA9 inquiry

Good Afternoon Martine –

B5

When you get a chance, please review and let me know if you have any edits by COB Friday, October 12th.

Thanks!
Lindsay

Media Inquiry

Reporter: Whitney Wild
Media Outlet: WUSA9

Reporter Deadline: Requested an interview for the week of October 15th

Background: I'm reaching out from WUSA9 here in D.C. We are exploring a story about the growing concern about a possible link between grain-free dog food and dilated cardiomyopathy cited in this announcement:

<https://www.fda.gov/animalveterinary/newsevents/cvmupdates/ucm613305.htm>

Is there anyone from the FDA we could speak with on-camera about the research the agency is doing, any conclusions and the complaints the agency has fielded surrounding this issue?

Questions/Proposed Responses:

B5

B5

Lindsay Haake

Press Officer

**Office of Media Affairs
Office of External Affairs
U.S. Food and Drug Administration**

Tel: 301-796-3007 / **B6**

Lindsay.Haake@fda.hhs.gov



Appears this Way on Original

From: Rotstein, David </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=0A3B17EBFCF14A6CB8E94F322906BADD-DROTSTEI>
To: Hartogensis, Martine; Jones, Jennifer L; Palmer, Lee Anne; Carey, Lauren
Sent: 6/4/2018 4:58:23 PM
Subject: checking in-FW: DRAFT- email to the Divisions about Dilated Cardiomyopathy
Attachments: 800.267-DCM-Grainfree analysis.pptx

Everyone,

B5

Thanks,
dave

David Rotstein, DVM, MPVM, Dipl. ACVP
CVM Vet-LIRN Liaison
CVM OSC/DC/CERT
7519 Standish Place

B6



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From: Rotstein, David
Sent: Thursday, May 24, 2018 10:04 AM
To: Queen, Jackie L <Jackie.Queen@fda.hhs.gov>
Cc: Rotstein, David <David.Rotstein@fda.hhs.gov>
Subject: DRAFT- email to the Divisions about Dilated Cardiomyopathy

Jackie,

Please take a look when you get a chance:

Good Morning,

B5

B5

To address this, CVM is planning the following:

B5

Thank you,

Dave

Brand	flavor	Firm	Location	FEI	Division
B4, B5					

David Rotstein, DVM, MPVM, Dipl. ACVP
CVM Vet-LIRN Liaison
CVM OSC/DC/CERT
7519 Standish Place

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From: Rotstein, David </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=0A3B17EBFCF14A6CB8E94F322906BADD-DROTSTEI>
To: Hartogensis, Martine; Reimschuessel, Renate; Jones, Jennifer L
Sent: 6/11/2018 6:39:51 PM
Subject: RE: 800.267-DCM and meeting with Cardiac Care for Pets

B5

David Rotstein, DVM, MPVM, Dipl. ACVP
CVM Vet-LIRN Liaison
CVM OSC/DC/CERT
7519 Standish Place

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From: Hartogensis, Martine
Sent: Monday, June 11, 2018 2:37 PM
To: Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>
Cc: Rotstein, David <David.Rotstein@fda.hhs.gov>
Subject: RE: 800.267-DCM and meeting with Cardiac Care for Pets

Ok, thank you Renate! Just thought it would be worth discussing ;)

Martine

From: Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>
Date: June 11, 2018 at 2:25:11 PM EDT
To: Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>, Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>
Cc: Rotstein, David <David.Rotstein@fda.hhs.gov>
Subject: RE: 800.267-DCM and meeting with Cardiac Care for Pets

B5

B5

Renate Reimschuessel V.M.D. Ph.D., Director: Vet-LIRN

Phone 1-240-402-5404 Fax 301-210-4685

Vet-LIRN <http://www.fda.gov/AnimalVeterinary/ScienceResearch/ucm247334.htm>

From: Hartogensis, Martine

Sent: Monday, June 11, 2018 1:57 PM

To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>

Cc: Rotstein, David <David.Rotstein@fda.hhs.gov>

Subject: RE: 800.267-DCM and meeting with Cardiac Care for Pets

Hi Jen and Renate,

Just a crazy thought.

B5

B5

Martine

From: Jones, Jennifer L

Sent: Monday, June 11, 2018 12:06 PM

To: Norris, Anne <Anne.Norris@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>; Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>; Edwards, David <David.Edwards@fda.hhs.gov>; Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>; Burkholder, William <William.Burkholder@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>

Cc: Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Lovell, Randall A <Randall.Lovell@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>; Conway, Charlotte <Charlotte.Conway@fda.hhs.gov>; Atkinson, Krisztina Z <Krisztina.Atkinson@fda.hhs.gov>; Hodges, April <April.Hodges@fda.hhs.gov>

Subject: RE: 800.267-DCM and meeting with Cardiac Care for Pets

Good morning everyone,

B5

Please let me know if you have feedback or comments by COB Friday (6/15).

Thank you,
Jen

Jennifer Jones, DVM
Veterinary Medical Officer
Tel: 240-402-5421



From: Norris, Anne

Sent: Tuesday, May 22, 2018 9:24 AM

To: Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>; Edwards, David <David.Edwards@fda.hhs.gov>; Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>; Burkholder, William <William.Burkholder@fda.hhs.gov>; DeLancey,

Siobhan <Siobhan.Delancey@fda.hhs.gov>

Cc: Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Lovell, Randall A <Randall.Lovell@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>; Conway, Charlotte <Charlotte.Conway@fda.hhs.gov>; Atkinson, Krisztina Z <Krisztina.Atkinson@fda.hhs.gov>; Hodges, April <April.Hodges@fda.hhs.gov>

Subject: RE: 800.267-DCM and meeting with Cardiac Care for Pets

Thank you for explaining. Completely understand the sensitivity, was just curious. We can use a light touch in any preliminary communications.

From: Palmer, Lee Anne

Sent: Tuesday, May 22, 2018 9:13 AM

To: Norris, Anne <Anne.Norris@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>; Edwards, David <David.Edwards@fda.hhs.gov>; Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>; Burkholder, William <William.Burkholder@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>

Cc: Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Lovell, Randall A <Randall.Lovell@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>; Conway, Charlotte <Charlotte.Conway@fda.hhs.gov>; Atkinson, Krisztina Z <Krisztina.Atkinson@fda.hhs.gov>; Hodges, April <April.Hodges@fda.hhs.gov>

Subject: RE: 800.267-DCM and meeting with Cardiac Care for Pets

B5

For example,

B4

dry (not a grain-free diet)

B5

B5

B4

From: Norris, Anne

Sent: Tuesday, May 22, 2018 8:49 AM

To: Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>; Edwards, David <David.Edwards@fda.hhs.gov>; Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>; Burkholder, William <William.Burkholder@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>

Cc: Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Lovell, Randall A <Randall.Lovell@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>; Conway, Charlotte <Charlotte.Conway@fda.hhs.gov>; Atkinson, Krisztina Z <Krisztina.Atkinson@fda.hhs.gov>; Hodges, April <April.Hodges@fda.hhs.gov>

Subject: RE: 800.267-DCM and meeting with Cardiac Care for Pets

That should be fine. I apologize if we already discussed this,

B5

B5

From: Palmer, Lee Anne

Sent: Tuesday, May 22, 2018 8:39 AM

To: Rotstein, David <David.Rotstein@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>; Edwards, David <David.Edwards@fda.hhs.gov>; Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>; Burkholder, William <William.Burkholder@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>

Cc: Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Lovell, Randall A <Randall.Lovell@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>; Conway, Charlotte <Charlotte.Conway@fda.hhs.gov>; Atkinson, Krisztina Z <Krisztina.Atkinson@fda.hhs.gov>; Hodges, April <April.Hodges@fda.hhs.gov>

Subject: RE: 800.267-DCM and meeting with Cardiac Care for Pets

B5

From: Rotstein, David

Sent: Tuesday, May 22, 2018 8:37 AM

To: Norris, Anne <Anne.Norris@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>; Edwards, David <David.Edwards@fda.hhs.gov>; Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>; Burkholder, William <William.Burkholder@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>

Cc: Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Lovell, Randall A <Randall.Lovell@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>; Conway, Charlotte <Charlotte.Conway@fda.hhs.gov>; Atkinson, Krisztina Z <Krisztina.Atkinson@fda.hhs.gov>; Hodges, April <April.Hodges@fda.hhs.gov>

Subject: RE: 800.267-DCM and meeting with Cardiac Care for Pets

Anne,

Agreed.

B5

B5

David Rotstein, DVM, MPVM, Dipl. ACVP
CVM Vet-LIRN Liaison
CVM OSC/DC/CERT
7519 Standish Place

B6



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From: Norris, Anne

Sent: Tuesday, May 22, 2018 8:34 AM

To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>; Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>; Edwards, David <David.Edwards@fda.hhs.gov>; Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>; Burkholder, William <William.Burkholder@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>

Cc: Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Lovell, Randall A <Randall.Lovell@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>; Conway, Charlotte <Charlotte.Conway@fda.hhs.gov>; Atkinson, Krisztina Z <Krisztina.Atkinson@fda.hhs.gov>; Hodges, April <April.Hodges@fda.hhs.gov>

Subject: RE: 800.267-DCM and meeting with Cardiac Care for Pets

B5

From: Jones, Jennifer L

Sent: Tuesday, May 22, 2018 8:31 AM

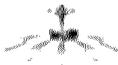
To: Rotstein, David <David.Rotstein@fda.hhs.gov>; Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>; Edwards, David <David.Edwards@fda.hhs.gov>; Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>; Burkholder, William <William.Burkholder@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>

Cc: Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; Lovell, Randall A <Randall.Lovell@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>; Conway, Charlotte <Charlotte.Conway@fda.hhs.gov>; Atkinson, Krisztina Z <Krisztina.Atkinson@fda.hhs.gov>; Hodges, April <April.Hodges@fda.hhs.gov>

Subject: RE: 800.267-DCM and meeting with Cardiac Care for Pets

B5

Jennifer Jones, DVM
Veterinary Medical Officer
Tel: 240-402-5421



From: Rotstein, David

Sent: Tuesday, May 22, 2018 8:25 AM

To: Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>; Edwards, David <David.Edwards@fda.hhs.gov>; Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>; Burkholder, William <William.Burkholder@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>

Cc: Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; Lovell, Randall A <Randall.Lovell@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>; Conway, Charlotte <Charlotte.Conway@fda.hhs.gov>; Atkinson, Krisztina Z <Krisztina.Atkinson@fda.hhs.gov>; Hodges, April <April.Hodges@fda.hhs.gov>

Subject: RE: 800.267-DCM and meeting with Cardiac Care for Pets

B5

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David Rotstein, DVM, MPVM, Dipl. ACVP
CVM Vet-LIRN Liaison
CVM OSC/DC/CERT
7519 Standish Place

B6



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From: Reimschuessel, Renate

Sent: Tuesday, May 22, 2018 8:18 AM

To: Edwards, David <David.Edwards@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>; Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>; Burkholder, William <William.Burkholder@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>

Cc: Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; Lovell, Randall A <Randall.Lovell@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>; Conway, Charlotte <Charlotte.Conway@fda.hhs.gov>; Atkinson, Krisztina Z <Krisztina.Atkinson@fda.hhs.gov>; Hodges, April <April.Hodges@fda.hhs.gov>

Subject: RE: 800.267-DCM and meeting with Cardiac Care for Pets

B5

B5

Just some food for thought... rr

Renate Reimschuessel V.M.D. Ph.D. Vet-LIRN

Phone 1-240-402-5404

Fax 301-210-4685

<http://www.fda.gov/AnimalVeterinary/ScienceResearch/ucm247334.htm>

From: Edwards, David

Sent: Tuesday, May 22, 2018 7:54 AM

To: Rotstein, David <David.Rotstein@fda.hhs.gov>; Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>; Burkholder, William <William.Burkholder@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>

Cc: Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; Lovell, Randall A <Randall.Lovell@fda.hhs.gov>; Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>; Conway, Charlotte <Charlotte.Conway@fda.hhs.gov>; Atkinson, Krisztina Z <Krisztina.Atkinson@fda.hhs.gov>; Hodges, April <April.Hodges@fda.hhs.gov>

Subject: RE: 800.267-DCM and meetign with Cardiac Care for Pets

Hi everyone,

B5

Thanks,
Dave

From: Rotstein, David

Sent: Monday, May 21, 2018 7:49 AM

To: Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>; Burkholder, William <William.Burkholder@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>

Cc: Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; Lovell, Randall A <Randall.Lovell@fda.hhs.gov>; Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>; Conway, Charlotte <Charlotte.Conway@fda.hhs.gov>; Edwards, David <David.Edwards@fda.hhs.gov>; Atkinson, Krisztina Z <Krisztina.Atkinson@fda.hhs.gov>; Hodges, April <April.Hodges@fda.hhs.gov>

Subject: RE: 800.267-DCM and meetign with Cardiac Care for Pets

B5

David Rotstein, DVM, MPVM, Dipl. ACVP
CVM Vet-LIRN Liaison
CVM OSC/DC/CERT
7519 Standish Place

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From: Hartogensis, Martine

Sent: Monday, May 21, 2018 7:47 AM

To: Burkholder, William <William.Burkholder@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>

Cc: Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; Lovell, Randall A <Randall.Lovell@fda.hhs.gov>; Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>; Conway, Charlotte <Charlotte.Conway@fda.hhs.gov>; Edwards, David <David.Edwards@fda.hhs.gov>; Atkinson, Krisztina Z <Krisztina.Atkinson@fda.hhs.gov>

Subject: RE: 800.267-DCM and meetign with Cardiac Care for Pets

Thanks Bill and your concerns are noted!

B5

Martine

From: Burkholder, William

Sent: Friday, May 18, 2018 5:04 PM

To: Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>;

Hartogenesis, Martine <Martine.Hartogenesis@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>
Cc: Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; Lovell, Randall A <Randall.Lovell@fda.hhs.gov>; Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>; Conway, Charlotte <Charlotte.Conway@fda.hhs.gov>; Edwards, David <David.Edwards@fda.hhs.gov>; Atkinson, Krisztina Z <Krisztina.Atkinson@fda.hhs.gov>
Subject: RE: 800.267-DCM and meetign with Cardiac Care for Pets

B5

Bill

What Socrates is really supposed to have said: *"The only true wisdom is in knowing that you know nothing."

From: Palmer, Lee Anne
Sent: Friday, May 18, 2018 2:09 PM
To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Hartogenesis, Martine <Martine.Hartogenesis@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>
Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; Lovell, Randall A <Randall.Lovell@fda.hhs.gov>; Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>
Subject: RE: 800.267-DCM and meetign with Cardiac Care for Pets

Thanks, Jen, very interesting issue!

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Lee Anne

From: Jones, Jennifer L
Sent: Friday, May 18, 2018 1:54 PM
To: Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>
Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; Lovell, Randall A <Randall.Lovell@fda.hhs.gov>; Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>
Subject: RE: 800.267-DCM and meetign with Cardiac Care for Pets

B5

Any other ideas or suggestions?

Jennifer Jones, DVM
Veterinary Medical Officer
Tel: 240-402-5421



From: Hartogensis, Martine
Sent: Friday, May 18, 2018 11:58 AM
To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>
Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; Lovell, Randall A <Randall.Lovell@fda.hhs.gov>; Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>
Subject: RE: 800.267-DCM and meetign with Cardiac Care for Pets

Thank you Jen! Sounds good and looking forward to the meeting.

Martine

From: Jones, Jennifer L
Sent: Friday, May 18, 2018 6:42 AM
To: Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>
Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; Lovell, Randall A <Randall.Lovell@fda.hhs.gov>; Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>
Subject: RE: 800.267-DCM and meetign with Cardiac Care for Pets

CVCA is not a part of Vet-LIRN.

B4

B5

Jennifer Jones, DVM
Veterinary Medical Officer
Tel: 240-402-5421



From: Hartogensis, Martine

Sent: Thursday, May 17, 2018 7:52 PM

To: DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>

Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; Lovell, Randall A <Randall.Lovell@fda.hhs.gov>; Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>

Subject: RE: 800.267-DCM and meetign with Cardiac Care for Pets

Yes, excellent work!
Are they part of VET-LIRN?

B5

Are

Thanks in advance!

Martine

From: DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>

Date: May 17, 2018 at 2:27:35 PM EDT

To: Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>, Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>, Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>, Rotstein, David <David.Rotstein@fda.hhs.gov>

Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>, Carey, Lauren <Lauren.Carey@fda.hhs.gov>, Norris, Anne <Anne.Norris@fda.hhs.gov>, Lovell, Randall A <Randall.Lovell@fda.hhs.gov>, Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>, Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>, Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>

Subject: RE: 800.267-DCM and meetign with Cardiac Care for Pets

B4, B5

From: Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>

Date: May 17, 2018 at 2:14:48 PM EDT

To: DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>, Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>, Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>, Rotstein, David <David.Rotstein@fda.hhs.gov>

Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>, Carey, Lauren <Lauren.Carey@fda.hhs.gov>, Norris, Anne <Anne.Norris@fda.hhs.gov>, Lovell, Randall A <Randall.Lovell@fda.hhs.gov>, Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>, Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>, Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>

Subject: RE: 800.267-DCM and meetign with Cardiac Care for Pets

Hah! Perfect timing! We're all heading down the same path...

From: DeLancey, Siobhan

Sent: Thursday, May 17, 2018 2:13 PM

To: Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>

Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; Lovell, Randall A <Randall.Lovell@fda.hhs.gov>; Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>

Subject: RE: 800.267-DCM and meetign with Cardiac Care for Pets

As luck would have it, I'm at CE today listening to

B6

talk about nutrition and cardiomyopathies. See attached slide.

From: Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>

Date: May 17, 2018 at 2:06:04 PM EDT

To: Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>, Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>, Rotstein, David <David.Rotstein@fda.hhs.gov>

Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>, Carey, Lauren <Lauren.Carey@fda.hhs.gov>, Norris, Anne <Anne.Norris@fda.hhs.gov>, DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>, Lovell, Randall A <Randall.Lovell@fda.hhs.gov>, Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>, Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>, Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>

Subject: RE: 800.267-DCM and meetign with Cardiac Care for Pets

B5

B5

From: Hartogenesis, Martine

Sent: Thursday, May 17, 2018 11:59 AM

To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>

Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>; Lovell, Randall A <Randall.Lovell@fda.hhs.gov>; Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>

Subject: RE: 800.267-DCM and meetign with Cardiac Care for Pets

Excellent work Jen!!

B5

Martine

From: Jones, Jennifer L

Sent: Thursday, May 17, 2018 11:29 AM

To: Rotstein, David <David.Rotstein@fda.hhs.gov>; Hartogenesis, Martine <Martine.Hartogenesis@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>

Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>; Lovell, Randall A <Randall.Lovell@fda.hhs.gov>; Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>

Subject: RE: 800.267-DCM and meetign with Cardiac Care for Pets

B5

Please see the PPT for the rationale/summary

Jennifer Jones, DVM
Veterinary Medical Officer
Tel: 240-402-5421



From: Rotstein, David
Sent: Monday, May 14, 2018 10:22 AM
To: Hartogenesis, Martine <Martine.Hartogenesis@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>
Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>; Lovell, Randall A <Randall.Lovell@fda.hhs.gov>
Subject: RE: DCM and meetign with Cardiac Care for Pets

I do not know **B5** Once we get a better handle on a specific cause, we can work on that.

From: Hartogenesis, Martine <Martine.Hartogenesis@fda.hhs.gov>
Date: May 14, 2018 at 9:09:17 AM EDT
To: Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>, Rotstein, David <David.Rotstein@fda.hhs.gov>, Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>
Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>, Carey, Lauren <Lauren.Carey@fda.hhs.gov>, Norris, Anne <Anne.Norris@fda.hhs.gov>, DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>, Lovell, Randall A <Randall.Lovell@fda.hhs.gov>
Subject: RE: DCM and meetign with Cardiac Care for Pets

This is very interesting.

B5

B5

Martine

From: Palmer, Lee Anne
Sent: Friday, May 11, 2018 4:30 PM
To: Rotstein, David <David.Rotstein@fda.hhs.gov>; Hartogenesis, Martine <Martine.Hartogenesis@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>
Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>; Lovell, Randall A <Randall.Lovell@fda.hhs.gov>
Subject: RE: DCM and meetign with Cardiac Care for Pets

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From: Rotstein, David
Sent: Friday, May 11, 2018 4:14 PM
To: Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>
Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>; Lovell, Randall A <Randall.Lovell@fda.hhs.gov>
Subject: RE: DCM and meetign with Cardiac Care for Pets

Lee Anne,

B5

From: Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>
Date: May 11, 2018 at 4:06:05 PM EDT
To: Rotstein, David <David.Rotstein@fda.hhs.gov>, Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>, Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>
Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>, Carey, Lauren <Lauren.Carey@fda.hhs.gov>, Norris, Anne <Anne.Norris@fda.hhs.gov>, DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>, Lovell, Randall A <Randall.Lovell@fda.hhs.gov>
Subject: RE: DCM and meetign with Cardiac Care for Pets

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B5

From: Rotstein, David
Sent: Wednesday, May 9, 2018 4:13 PM
To: Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>
Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>
Subject: RE: DCM and meetign with Cardiac Care for Pets

Sounds very intriguing!!!

From: Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>
Date: May 9, 2018 at 4:09:18 PM EDT
To: Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>, Rotstein, David <David.Rotstein@fda.hhs.gov>, Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>
Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>, Carey, Lauren <Lauren.Carey@fda.hhs.gov>, Norris, Anne <Anne.Norris@fda.hhs.gov>, DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>
Subject: RE: DCM and meetign with Cardiac Care for Pets

B5

From: Hartogensis, Martine
Sent: Wednesday, May 9, 2018 2:17 PM
To: Rotstein, David <David.Rotstein@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>
Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>

Subject: RE: DCM and meetign with Cardiac Care for Pets

Awesome, thank you Dave!

Martine

From: Rotstein, David

Sent: Wednesday, May 09, 2018 2:06 PM

To: Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>

Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>

Subject: RE: DCM and meetign with Cardiac Care for Pets

Good Afternoon,

I spoke with **B6** @ Cardiac Care for Pets. He is going to look into times/dates with the cardiologists there and we can set the meeting up from that point.

Just some basic information:

B5

As a side note, there is a facebook page dedicated to this issue:

<https://www.facebook.com/groups/1952593284998859/about/>

David Rotstein, DVM, MPVM, Dipl. ACVP
CVM Vet-LIRN Liaison
CVM OSC/DC/CERT
7519 Standish Place

B6



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From: Hartogensis, Martine

Sent: Tuesday, May 08, 2018 10:58 AM

To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>

Subject: RE: DCM

Thank you Jen and Dave! Very interesting and sounds like you all are on it!

B6

B6

<https://www.cvcavets.com>

B6

Keep us posted!

Thanks again!

Martine

Hi Martine,

B5

I'm happy to share more info as needed.

Jen

Jennifer Jones, DVM
Veterinary Medical Officer
Tel: 240-402-5421



From: Rotstein, David

Sent: Tuesday, May 08, 2018 9:45 AM

To: Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>

Subject: RE: DCM

Martine,

B5

B5

Looping in Jen.

Thanks for the update!

dave

David Rotstein, DVM, MPVM, Dipl. ACVP
CVM Vet-LIRN Liaison
CVM OSC/DC/CERT
7519 Standish Place

B6



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From: Hartogenesis, Martine
Sent: Tuesday, May 08, 2018 9:00 AM
To: Rotstein, David <David.Rotstein@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>
Subject: RE: DCM

B5

B5

B5

Might be a good opportunity for us to partner with some cardiology folks....

Martine

From: Rotstein, David
Sent: Monday, May 07, 2018 1:13 PM
To: Hartogenesis, Martine <Martine.Hartogenesis@fda.hhs.gov>
Subject: Re: DCM

Martine

B5

There's a way to go on this moving forward.

Dave

From: Hartogenesis, Martine <Martine.Hartogenesis@fda.hhs.gov>
Date: May 7, 2018 at 1:03:13 PM EDT
To: Rotstein, David <David.Rotstein@fda.hhs.gov>
Subject: DCM

Hi Dave!

Do you have any more details on the DCM and grain free diet issue?

Martine

From: Darcy Adin <dbadin@ncsu.edu>
To: Freeman, Lisa
CC: Jones, Jennifer L; Joshua A Stern; Fries, Ryan C; [REDACTED]; Rotstein, David; Norris, Anne; DeLancey, Siobhan; Ceric, Olga
Sent: 5/25/2018 9:25:30 PM
Subject: Re: diet related DCM - a couple forms

Thank you Lisa! Those look very helpful.

We have several Great Danes with DCM eating [REDACTED] must be popular with owners of that breed!

Hope you have a good weekend,

Darcy

On Thu, May 24, 2018 at 3:21 PM, Freeman, Lisa <Lisa.Freeman@tufts.edu> wrote:

Hi everyone

[REDACTED]

B5

[REDACTED]

B5

Thanks

Lisa

Lisa M. Freeman, DVM, PhD, DACVN

Professor

Cummings School of Veterinary Medicine

Friedman School of Nutrition Science and Policy

Tufts Clinical and Translational Science Institute

Tufts University

www.petfoodology.org

From: Jones, Jennifer L [mailto:Jennifer.Jones@fda.hhs.gov]

Sent: Friday, April 20, 2018 3:50 PM

To: Darcy Adin <dbadin@ncsu.edu>; Freeman, Lisa <Lisa.Freeman@tufts.edu>; Joshua A Stern <jstern@ucdavis.edu>; Fries, Ryan C <rfries@illinois.edu>; [REDACTED]

B6

Cc: Rotstein, David <David.Rotstein@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>

Subject: RE: hold-call with Dr. Adin re: DCM cases

Importance: High

My apologies for the repeat email. After further internal discussion, in lieu of submitting Consumer Complaints, you can just email me a spreadsheet with the data.

Jennifer Jones, DVM

Veterinary Medical Officer

Tel: 240-402-5421



From: Jones, Jennifer L

Sent: Friday, April 20, 2018 1:19 PM

To: 'Darcy Adin' <dbadin@ncsu.edu>; Freeman, Lisa <lisa.freeman@tufts.edu>; Joshua A Stern <jstern@ucdavis.edu>; Fries, Ryan C <rfries@illinois.edu>; [REDACTED]

B6

Cc: Rotstein, David <David.Rotstein@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>

Subject: RE: hold-call with Dr. Adin re: DCM cases

Thank you again for joining us on the call and providing the information about your cases. To help us catalogue and potentially act on these adverse events, please file an official consumer complaint. Instructions on how to report a pet food report can be found at: <https://www.fda.gov/AnimalVeterinary/SafetyHealth/ReportaProblem/ucm182403.htm>. The complaint can be submitted through the Safety Reporting Portal: <https://www.safetyreporting.hhs.gov>. You can attach documents already created that compile your case data. We will review the data and may contact you for possible follow-up.

In the meantime, if you have a dog with DCM on a grain free diet that dies or is euthanized, please do not dispose of the animal's body or any remaining food. Please submit an individual consumer complaint for that dog, and mention that you have been instructed to submit the report by Vet-LIRN. We will review the complaint for potential follow-up and may be able to offer a necropsy. I attached a copy of our Vet-LIRN network procedures that describe how we operate. I also included a version for animal owners.

Please email or call me with any questions. Thank you again for your time and expertise,

Jen

Jennifer Jones, DVM

Veterinary Medical Officer

Tel: 240-402-5421



From: Darcy Adin [<mailto:dbadin@ncsu.edu>]

Sent: Thursday, April 19, 2018 11:00 AM

To: Freeman, Lisa <lisa.freeman@tufts.edu>; Joshua A Stern <jsstern@ucdavis.edu>; Fries, Ryan C <rfries@illinois.edu>;

B6

<Jennifer.Jones@fda.hhs.gov>; Jones, Jennifer L

Cc: Rotstein, David <David.Rotstein@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>

Subject: Fwd: hold-call with Dr. Adin re: DCM cases

Dear Dr. Jones,

We are all able to meet tomorrow, Friday April 20th at 11 am EST to discuss our clinical observations and concerns surrounding a potential relationship between grain-free canine diets and Dilated Cardiomyopathy.

Drs: **B6** Freeman **B6** Fries and Stern - the call details are in the forwarded email below.

Just a brief introduction for the FDA group:

B6

Dr. Lisa Freeman is a Professor of Clinical Nutrition at Tufts University, College of Vet Med

B6

Dr. Ryan Fries is a Clinical Assistant Professor of Cardiology at Illinois, College of Vet Med

Dr. Josh Stern is an Associate Professor of Cardiology at UC Davis, College of Vet Med

Thank you everyone for making time in your schedule! I am looking forward to this.

Sincerely,

Darcy Adin

----- Forwarded message -----

From: **Jones, Jennifer L** <Jennifer.Jones@fda.hhs.gov>

Date: Thu, Apr 19, 2018 at 7:16 AM

Subject: hold-call with Dr. Adin re: DCM cases

To: "Rotstein, David" <David.Rotstein@fda.hhs.gov>, "Norris, Anne" <Anne.Norris@fda.hhs.gov>, "DeLancey, Siobhan" <Siobhan.Delancey@fda.hhs.gov>, Darcy Adin <dbadin@ncsu.edu>

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--

Darcy B. Adin, DVM, DACVIM (Cardiology)

Clinical Assistant Professor of Cardiology

North Carolina State University

NC State Veterinary Hospital

1060 William Moore Drive

Raleigh, NC 27607

919-513-6032

--

Darcy B. Adin, DVM, DACVIM (Cardiology)

Clinical Assistant Professor of Cardiology

North Carolina State University

NC State Veterinary Hospital

1060 William Moore Drive

Raleigh, NC 27607

919-513-6032

From: Rotstein, David </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=0A3B17EBFCF14A6CB8E94F322906BADD-DROTSTEI>
To: Hartogensis, Martine; Jones, Jennifer L; Palmer, Lee Anne; Carey, Lauren
Sent: 6/5/2018 6:52:41 PM
Subject: RE: checking in-FW: DRAFT- email to the Divisions about Dilated Cardiomyopathy

Martine,

I'm available.

Thank you!!

David Rotstein, DVM, MPVM, Dipl. ACVP
CVM Vet-LIRN Liaison
CVM OSC/DC/CERT
7519 Standish Place
B6 BB)



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From: Hartogensis, Martine
Sent: Tuesday, June 05, 2018 2:51 PM
To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>
Subject: RE: checking in-FW: DRAFT- email to the Divisions about Dilated Cardiomyopathy

Hi!

B5

We are tentatively going to do a call Monday 9:30-10:30. Does that work for everyone?

They will set up a Go To meeting and I will forward.

Thanks again!

Martine

From: Jones, Jennifer L
Sent: Tuesday, June 05, 2018 2:30 PM
To: Rotstein, David <David.Rotstein@fda.hhs.gov>; Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>
Subject: RE: checking in-FW: DRAFT- email to the Divisions about Dilated Cardiomyopathy

Dave B5

Jennifer Jones, DVM
Veterinary Medical Officer
Tel: 240-402-5421



From: Rotstein, David
Sent: Tuesday, June 05, 2018 2:25 PM
To: Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>
Subject: RE: checking in-FW: DRAFT- email to the Divisions about Dilated Cardiomyopathy

Thank you.

I am going to send these out and also include the information Tuff's sent out to give them a more complete picture of it all.

David Rotstein, DVM, MPVM, Dipl. ACVP
CVM Vet-LIRN Liaison
CVM OSC/DC/CERT
7519 Standish Place

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Sent: Tuesday, June 05, 2018 2:23 PM
To: Rotstein, David <David.Rotstein@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>
Subject: RE: checking in-FW: DRAFT- email to the Divisions about Dilated Cardiomyopathy

Hi Dave,

Are you talking about the ORA Divisions? If so, great idea and ok with me to send.

Martine

From: Rotstein, David
Sent: Monday, June 04, 2018 12:58 PM
To: Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>
Subject: checking in-FW: DRAFT- email to the Divisions about Dilated Cardiomyopathy

Everyone,

B5

Thanks,
dave

David Rotstein, DVM, MPVM, Dipl. ACVP
CVM Vet-LIRN Liaison
CVM OSC/DC/CERT
7519 Standish Place
B6 (BB)



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From: Rotstein, David
Sent: Thursday, May 24, 2018 10:04 AM
To: Queen, Jackie L <Jackie.Queen@fda.hhs.gov>
Cc: Rotstein, David <David.Rotstein@fda.hhs.gov>
Subject: DRAFT- email to the Divisions about Dilated Cardiomyopathy

Jackie,

Please take a look when you get a chance:

Good Morning,

CVM has been investigating reports of dilated cardiomyopathy (DCM), a condition involving thinning of the heart muscle, in dogs. Some breeds involved (Golden Retrievers) are predisposed to DCM. Cases were brought to the attention of CVM by veterinary colleges and private veterinary cardiologists. Grain free dog foods appear to be a common factor. CVM is exploring diagnostic investigations through FDA CVM Vet-LIRN and also epidemiological evaluation by the CVM Division of Veterinary Product Safety. In cats, the condition is associated with low taurine and there have been sporadic recalls relating to low taurine cat food. B5

B5 Some additional information is attached.

Because of the increased reports/cases at veterinary colleges, there has been a larger web presence among professionals and the public including a Facebook page concerning the issue.

B5

B5

Thank you,

Dave

B4, B5

David Rotstein, DVM, MPVM, Dipl. ACVP
CVM Vet-LIRN Liaison
CVM OSC/DC/CERT
7519 Standish Place
B6 (BB)



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From: Palmer, Lee Anne </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=CF7C8BD53B6C45A39318A596ACEA7C53-LPALMER>
To: Hartogensis, Martine; Jones, Jennifer L; Rotstein, David; Carey, Lauren
Sent: 6/5/2018 7:19:03 PM
Subject: RE: checking in-FW: DRAFT- email to the Divisions about Dilated Cardiomyopathy

Looks good to me! Thanks.

From: Hartogensis, Martine
Sent: Tuesday, June 5, 2018 2:51 PM
To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>
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Hi!

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Thanks again!

Martine

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Subject: RE: checking in-FW: DRAFT- email to the Divisions about Dilated Cardiomyopathy

Dave **B5**

Jennifer Jones, DVM
Veterinary Medical Officer
Tel: 240-402-5421



From: Rotstein, David
Sent: Tuesday, June 05, 2018 2:25 PM
To: Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>
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Thank you.

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David Rotstein, DVM, MPVM, Dipl. ACVP
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Subject: checking in-FW: DRAFT- email to the Divisions about Dilated Cardiomyopathy

Everyone,

B5

Thanks,
dave

David Rotstein, DVM, MPVM, Dipl. ACVP
CVM Vet-LIRN Liaison
CVM OSC/DC/CERT
7519 Standish Place

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Thank you,

Dave

B4, B5

B4, B5

David Rotstein, DVM, MPVM, Dipl. ACVP
CVM Vet-LIRN Liaison
CVM OSC/DC/CERT
7519 Standish Place

B6

(BB)



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From: Jones, Jennifer L </o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0f6ca12eaa9348959a4cbb1e829af244-Jennifer.Jo>
To: Palmer, Lee Anne; Hartogensis, Martine; Rotstein, David; Carey, Lauren
Sent: 6/6/2018 3:23:28 PM
Subject: RE: checking in-FW: DRAFT- email to the Divisions about Dilated Cardiomyopathy
Attachments: 800.267-DCM-Grainfree analysis-UPDATED.pptx

Here is the updated powerpoint **B4** the grain free diets and non-grain free diets have similar Tau, Cys, and Met content.

B5

is in progress.

Jennifer Jones, DVM
Veterinary Medical Officer
Tel: 240-402-5421



From: Palmer, Lee Anne
Sent: Tuesday, June 05, 2018 3:19 PM
To: Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>
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Subject: RE: checking in-FW: DRAFT- email to the Divisions about Dilated Cardiomyopathy

Dave **B5**

Jennifer Jones, DVM
Veterinary Medical Officer
Tel: 240-402-5421



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Subject: RE: checking in-FW: DRAFT- email to the Divisions about Dilated Cardiomyopathy

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From: Rotstein, David
Sent: Monday, June 04, 2018 12:58 PM
To: Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>
Subject: checking in-FW: DRAFT- email to the Divisions about Dilated Cardiomyopathy

Everyone,

B5

B5

Thanks,
dave

David Rotstein, DVM, MPVM, Dipl. ACVP
CVM Vet-LIRN Liaison
CVM OSC/DC/CERT
7519 Standish Place

B6

(BB)



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From: Rotstein, David
Sent: Thursday, May 24, 2018 10:04 AM
To: Queen, Jackie L <Jackie.Queen@fda.hhs.gov>
Cc: Rotstein, David <David.Rotstein@fda.hhs.gov>
Subject: DRAFT- email to the Divisions about Dilated Cardiomyopathy

Jackie,

Please take a look when you get a chance:

Good Morning,

CVM has been investigating reports of dilated cardiomyopathy (DCM), a condition involving thinning of the heart muscle, in dogs. Some breeds involved (Golden Retrievers) are predisposed to DCM. Cases were brought to the attention of CVM by veterinary colleges and private veterinary cardiologists. Grain free dog foods appear to be a common factor. CVM is exploring diagnostic investigations through FDA CVM Vet-LIRN and also epidemiological evaluation by the CVM Division of Veterinary Product Safety. In cats, the condition is associated with low taurine and there have been sporadic recalls relating to low taurine cat food.

B5

Some additional information is attached.

B5

Because of the increased reports/cases at veterinary colleges, there has been a larger web presence among professionals and the public including a Facebook page concerning the issue.

B5

B5

Thank you,

Dave

B4, B5

David Rotstein, DVM, MPVM, Dipl. ACVP
CVM Vet-LIRN Liaison
CVM OSC/DC/CERT
7519 Standish Place
B6 (BB)



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From: Carey, Lauren </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=F0226BD682844FA2B71EA3750D4FCB82-LAUREN.CARE>
To: Burkholder, William; Stamper, Carmela; Rotstein, David; Queen, Jackie L; Jones, Jennifer L; Atkinson, Krisztina Z; Palmer, Lee Anne
CC: Norris, Anne; Glover, Mark; Conway, Charlotte
Sent: 6/7/2018 4:57:15 PM
Subject: RE: Grain-Free Diet Effects
Attachments: Bednar - Starch and fiber fractions in selected food and feed ingredients.pdf; Murray - Evaluation of selected high-starch flours as ingredients in canine diets.pdf; Spears - Resistant starch as related to companion animal nutrition.pdf

I can only find abstracts for two. I have one other paper requested through ILL. I'll forward it once I have it. It was the one I found most interesting in regards to digestibility, etc.

B5

From: Carey, Lauren
Sent: Thursday, June 07, 2018 12:42 PM
To: Burkholder, William <William.Burkholder@fda.hhs.gov>; Stamper, Carmela <Carmela.Stamper@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>; Queen, Jackie L <Jackie.Queen@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Atkinson, Krisztina Z <Krisztina.Atkinson@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>
Cc: Norris, Anne <Anne.Norris@fda.hhs.gov>; Glover, Mark <Mark.Glover@fda.hhs.gov>; Conway, Charlotte <Charlotte.Conway@fda.hhs.gov>
Subject: RE: Grain-Free Diet Effects

B5

From: Burkholder, William
Sent: Thursday, June 07, 2018 10:49 AM
To: Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Stamper, Carmela <Carmela.Stamper@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>; Queen, Jackie L <Jackie.Queen@fda.hhs.gov>; Jones,

Jennifer L <Jennifer.Jones@fda.hhs.gov>; Atkinson, Krisztina Z <Krisztina.Atkinson@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>

Cc: Norris, Anne <Anne.Norris@fda.hhs.gov>; Glover, Mark <Mark.Glover@fda.hhs.gov>; Conway, Charlotte <Charlotte.Conway@fda.hhs.gov>

Subject: Grain-Free Diet Effects

This is from Charlotte Conway who has contacts within the pet food formulation business:

"In follow-up to Dr. Freeman's article, I got a call from [redacted] **B6** this morning - so passing along his thoughts [redacted] **B6**
[redacted] **B6**
[redacted] **B6** Passing along because I said I would."

Some things to think about.

Bill Burkholder

From: Rotstein, David </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=0A3B17EBFCF14A6CB8E94F322906BADD-DROTSTEI>
To: Hartogensis, Martine; Jones, Jennifer L; Palmer, Lee Anne
Sent: 5/8/2018 3:03:27 PM
Subject: RE: DCM

Thank you Martine!!!!

David Rotstein, DVM, MPVM, Dipl. ACVP
CVM Vet-LIRN Liaison
CVM OSC/DC/CERT
7519 Standish Place

B6

BB)



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From: Hartogensis, Martine
Sent: Tuesday, May 08, 2018 10:58 AM
To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>
Subject: RE: DCM

Thank you Jen and Dave! Very interesting and sounds like you all are on it!
Boorstin:

B6

https://www.cvcavets.com/doctor_directory/

B6

Keep us posted!

Thanks again!

Martine

Hi Martine,

B5

B5

B5

B5

I'm happy to share more info as needed.
Jen

Jennifer Jones, DVM
Veterinary Medical Officer
Tel: 240-402-5421



From: Rotstein, David
Sent: Tuesday, May 08, 2018 9:45 AM
To: Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>
Subject: RE: DCM

Martine,

B5

Looping in Jen.

Thanks for the update!

dave

David Rotstein, DVM, MPVM, Dipl. ACVP
CVM Vet-LIRN Liaison
CVM OSC/DC/CERT
7519 Standish Place

B6



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the sender immediately at david.rotstein@fda.hhs.gov.

From: Hartogenesis, Martine

Sent: Tuesday, May 08, 2018 9:00 AM

To: Rotstein, David <David.Rotstein@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>

Subject: RE: DCM

B5

Martine

From: Rotstein, David

Sent: Monday, May 07, 2018 1:13 PM

To: Hartogenesis, Martine <Martine.Hartogenesis@fda.hhs.gov>

Subject: Re: DCM

Martine

Lee Anne

B6

B6

Vet-LIRN is looking into

B6

B6

There's a way to go on this moving forward.

Dave

From: Hartogenesis, Martine <Martine.Hartogenesis@fda.hhs.gov>

Date: May 7, 2018 at 1:03:13 PM EDT

To: Rotstein, David <David.Rotstein@fda.hhs.gov>

Subject: DCM

Hi Dave!

Do you have any more details on the DCM and grain free diet issue?

Martine

From: Rotstein, David </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=0A3B17EBFCF14A6CB8E94F322906BADD-DROTSTEI>
To: Palmer, Lee Anne; Jones, Jennifer L; Queen, Jackie L; Carey, Lauren
CC: Reimschuessel, Renate; Ceric, Olgica; Nemser, Sarah
Sent: 5/4/2018 3:58:42 PM
Subject: RE: DCM cases-food-Iodine screening results

Lee Anne

This is excellent. Based on what is found moving forward, do you think

B5

B5

From: Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>
Date: May 4, 2018 at 11:15:20 AM EDT
To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>, Rotstein, David <David.Rotstein@fda.hhs.gov>, Queen, Jackie L <Jackie.Queen@fda.hhs.gov>, Carey, Lauren <Lauren.Carey@fda.hhs.gov>
Cc: Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>, Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>, Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>
Subject: RE: DCM cases-food-Iodine screening results

Grain-free does seem to be a problem. I'm going to attach 2 reports from earlier 2017 (illnesses back in 2015) which kind of pre-date this issue a bit. 2 Whippets from the same household seen at B6. You probably recall these, but at the time, they didn't get further f/u. Earthborn Holistic Primitive Naturals is a grain-free food. Iron levels were elevated in this set of 2 cases, same household. DCM cases, young dogs.

I am pulling all the cases (the added ones) into one spreadsheet

B5

B5

B6

I am ready to go with some other analyses – I feel like I work like molasses some days. Have this afternoon, so still working on some stats for these cases.

From: Jones, Jennifer L
Sent: Friday, May 4, 2018 10:35 AM
To: Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>; Queen, Jackie L <Jackie.Queen@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>
Cc: Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>
Subject: RE: DCM cases-food-Iodine screening results

Yes. I'm going to test some non grain free foods to see how their met/cys ratios compare to these GF foods.

Jennifer Jones, DVM
Veterinary Medical Officer
Tel: 240-402-5421



From: Palmer, Lee Anne
Sent: Friday, May 04, 2018 10:21 AM
To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>; Queen, Jackie L <Jackie.Queen@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>

Cc: Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>
Subject: RE: DCM cases-food-Iodine screening results

B5

From: Jones, Jennifer L
Sent: Friday, May 4, 2018 10:04 AM
To: Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>; Queen, Jackie L <Jackie.Queen@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>
Cc: Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>
Subject: RE: DCM cases-food-Iodine screening results

There is no minimum for dogs...it is apparently a conditionally essential amino acid because dogs can make it from methione and cystine.

Jennifer Jones, DVM
Veterinary Medical Officer
Tel: 240-402-5421



From: Palmer, Lee Anne
Sent: Friday, May 04, 2018 10:01 AM
To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>; Queen, Jackie L <Jackie.Queen@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>
Cc: Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>
Subject: RE: DCM cases-food-Iodine screening results

Interesting... so the AAFCO minimum for cats is 0.1% DMB, is there a DMB for dogs? (If not, maybe there should be...)

From: Jones, Jennifer L
Sent: Friday, May 4, 2018 9:46 AM
To: Rotstein, David <David.Rotstein@fda.hhs.gov>; Queen, Jackie L <Jackie.Queen@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>
Cc: Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>
Subject: RE: DCM cases-food-Iodine screening results

One more nutritional deficiency-Taurine low based on AAFCO's Feline Minimum for Extruded foods. The dog consuming the product had a low whole blood Taurine level.

- Taurine = 45.5 mg/100g = 0.0455g/100g = 0.046% As Is Basis
If we assume a max of 10% moisture per the label (= 90% DMB),
then $0.0455 / 0.90 = 0.05\%$ DMB, which is less than the AAFCO minimum for cats eating extruded foods (0.1% DMB.)
- Cystine = 293 mg/100g = 0.293 g/100g = 0.29% As Is Basis
If we assume a max of 10% moisture per the label (= 90% DMB), then $0.293 / 0.90 = 0.33\%$ DMB
- Methionine = 358mg/100g = 0.358 g/100g = 0.36% As Is Basis

If we assume

B5

Jennifer Jones, DVM
Veterinary Medical Officer
Tel: 240-402-5421



From: Jones, Jennifer L
Sent: Monday, April 23, 2018 10:32 AM
To: Rotstein, David <David.Rotstein@fda.hhs.gov>; Queen, Jackie L <Jackie.Queen@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>
Cc: 'Reimschuessel, Renate (Renate.Reimschuessel@fda.hhs.gov)' <Renate.Reimschuessel@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>
Subject: DCM cases-food-Iodine screening results

FYI-

B5

B5

Jennifer L. A. Jones, DVM
Veterinary Medical Officer
U.S. Food & Drug Administration
Center for Veterinary Medicine
Office of Research
Veterinary Laboratory Investigation and Response Network (Vet-LIRN)
8401 Muirkirk Road, G704
Laurel, Maryland 20708
new tel: 240-402-5421
fax: 301-210-4685
e-mail: jennifer.jones@fda.hhs.gov
Web: <http://www.fda.gov/AnimalVeterinary/ScienceResearch/ucm247334.htm>



From: Jones, Jennifer L </o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0f6ca12eaa9348959a4cbb1e829af244-Jennifer.Jo>
To: Rotstein, David; 'Reimschuessel, Renate (Renate.Reimschuessel@fda.hhs.gov)'; Ceric, Olgica
CC: Norris, Anne; DeLancey, Siobhan
Sent: 4/13/2018 1:06:07 PM
Subject: FYI-FW: Call to discuss DCM cases

I'll keep everyone posted about a time for the meeting.

Jennifer Jones, DVM
Veterinary Medical Officer
Tel: 240-402-5421



From: Jones, Jennifer L
Sent: Friday, April 13, 2018 9:05 AM
To: 'Darcy Adin' <dbadin@ncsu.edu>
Subject: Call to discuss DCM cases

Good morning Darcy,
I hope you're well. Are you able to chat more about the DCM cases from dogs eating grain free food that the cardiology community is seeing? I'd like to schedule a call with you and some of your colleagues who are also following the issue. I'd like to gather more information about the clinical findings and your ideas on what could be the cause. Do you have any contacts with Dr. Joshua Stern or other clinical research cardiologists that could provide additional information following this issue? I can include them on the call.

Thank you in advance for your time, and have a great weekend.
Jen

Jennifer L. A. Jones, DVM

Veterinary Medical Officer
U.S. Food & Drug Administration
Center for Veterinary Medicine
Office of Research
Veterinary Laboratory Investigation and Response Network (Vet-LIRN)
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Laurel, Maryland 20708
new tel: 240-402-5421
fax: 301-210-4685
e-mail: jennifer.jones@fda.hhs.gov
Web: <http://www.fda.gov/AnimalVeterinary/ScienceResearch/ucm247334.htm>



From: Jones, Jennifer L </o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0f6ca12eaa9348959a4cbb1e829af244-Jennifer.Jo>
To: 'Darcy Adin'
CC: Rotstein, David; Norris, Anne; DeLancey, Siobhan
Sent: 4/16/2018 1:48:17 PM
Subject: RE: Call to discuss DCM cases

Yes, I can do 2 pm.

Jennifer Jones, DVM
Veterinary Medical Officer
Tel: 240-402-5421



From: Darcy Adin [mailto:dbadin@ncsu.edu]
Sent: Monday, April 16, 2018 9:43 AM
To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>
Cc: Rotstein, David <David.Rotstein@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>
Subject: Re: Call to discuss DCM cases

Thank you Jennifer. I will reach out to them to ask them to see if they are interested. Would it be possible to meet a bit earlier on thursday (say 2pm?)

Thanks!

Darcy

On Mon, Apr 16, 2018 at 8:20 AM, Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov> wrote:

Thank you, Darcy.

Would you be available Thursday at 3pm eastern? If Dr. Freeman or any of the other cardiologists you mentioned below are interested, they can join the call as well.

Jennifer Jones, DVM
Veterinary Medical Officer
Tel: 240-402-5421



From: Darcy Adin [mailto:dbadin@ncsu.edu]
Sent: Friday, April 13, 2018 12:31 PM
To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>
Subject: Re: Call to discuss DCM cases

Hi Jennifer,

Definitely! I'd love to chat more. I have not talked with Dr. Stern in a while but I can certainly reach out to him.

B5, B6

B6

Dr. Lisa Freeman (nutritionist at Tufts) and indirectly Dr. Ryan Fries at Illinois (he has

B5

I am free next week to chat wed-fri. Let me know how you would like to proceed - thank you!

Darcy

On Fri, Apr 13, 2018 at 9:05 AM, Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov> wrote:

Good morning Darcy,

I hope you're well. Are you able to chat more about the DCM cases from dogs eating grain free food that the cardiology community is seeing? I'd like to schedule a call with you and some of your colleagues who are also following the issue. I'd like to gather more information about the clinical findings and your ideas on what could be the cause. Do you have any contacts with Dr. Joshua Stern or other clinical research cardiologists that could provide additional information following this issue? I can include them on the call.

Thank you in advance for your time, and have a great weekend.

Jen

Jennifer L. A. Jones, DVM

Veterinary Medical Officer
U.S. Food & Drug Administration
Center for Veterinary Medicine
Office of Research
Veterinary Laboratory Investigation and Response Network (Vet-LIRN)
8401 Muirkirk Road, G704
Laurel, Maryland 20708
new tel: 240-402-5421
fax: 301-210-4685
e-mail: jennifer.jones@fda.hhs.gov
Web: <http://www.fda.gov/AnimalVeterinary/ScienceResearch/ucm247334.htm>



--

Darcy B. Adin, DVM, DACVIM (Cardiology)
Clinical Assistant Professor of Cardiology
North Carolina State University
NC State Veterinary Hospital
1060 William Moore Drive
Raleigh, NC 27607
919-513-6032

--

Darcy B. Adin, DVM, DACVIM (Cardiology)
Clinical Assistant Professor of Cardiology
North Carolina State University
NC State Veterinary Hospital
1060 William Moore Drive
Raleigh, NC 27607
919-513-6032

From: Darcy Adin <dbadin@ncsu.edu>
To: Jones, Jennifer L
Sent: 4/18/2018 10:58:16 AM
Subject: Re: hold-call with Dr. Adin re: DCM cases

Great! I will poll the group and got back to you

On Apr 18, 2018, at 6:46 AM, Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov> wrote:

Good morning Darcy,
If Friday works best for the group, we can be available between 11 to 3pm eastern.
Jen

Jennifer Jones, DVM
Veterinary Medical Officer
Tel: 240-402-5421
<[image001.png](#)> <[image002.png](#)>

From: Darcy Adin [<mailto:dbadin@ncsu.edu>]
Sent: Tuesday, April 17, 2018 5:18 PM
To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>
Subject: Re: hold-call with Dr. Adin re: DCM cases

B6 is free friday as well. If this works for you then I'll poll the others!

On Tue, Apr 17, 2018 at 5:16 PM, Darcy Adin <dbadin@ncsu.edu> wrote:
I will!

I haven't heard from her but Drs. Freeman and **B6** can't easily do thursday afternoon. I'm sure there is not going to be a time that is good for everyone but I would love for her to participate. She would be available earlier on thursday (before 11) but not sure if that will work for Dr. Stern on the west coast (I can ask if this is good for you) or friday except over lunch.

Would either of these options work for your team?
Take care
Darcy

On Tue, Apr 17, 2018 at 8:47 AM, Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov> wrote:
Thank you, Darcy.
I hope **B6** can join. I haven't talked with her in many years. **B6**

Jennifer Jones, DVM
Veterinary Medical Officer
Tel: 240-402-5421
<[image001.png](#)> <[image005.png](#)>

From: Darcy Adin [<mailto:dbadin@ncsu.edu>]
Sent: Tuesday, April 17, 2018 8:38 AM
To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>
Subject: Re: hold-call with Dr. Adin re: DCM cases

Thank you Jennifer. I will forward this on to Drs. Freeman (nutritionist at Tufts), Fries (cardiologist at Illinois) and [redacted] B5, B6 I am still waiting to hear back from [redacted] B5, B6 and [redacted] B5, B6
Take care
Darcy

On Apr 17, 2018, at 7:53 AM, Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov> wrote:

-- Do not delete or change any of the following text. --

Join WebEx meeting

Meeting number (access code): [redacted] B6
Meeting password: [redacted] B6

Join by phone

[redacted] B6 US Toll
[redacted] B6 US Toll Free

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<mime-attachment.ics>

--

Darcy B. Adin, DVM, DACVIM (Cardiology)
Clinical Assistant Professor of Cardiology
North Carolina State University
NC State Veterinary Hospital
1060 William Moore Drive
Raleigh, NC 27607
919-513-6032

--

Darcy B. Adin, DVM, DACVIM (Cardiology)
Clinical Assistant Professor of Cardiology
North Carolina State University
NC State Veterinary Hospital
1060 William Moore Drive
Raleigh, NC 27607
919-513-6032

From: Darcy Adin <dbadin@ncsu.edu>
To: Jones, Jennifer L
CC: Freeman, Lisa; Joshua A Stern <[REDACTED] B6 [REDACTED]>; Rotstein, David
Sent: 8/16/2018 12:49:22 PM
Subject: Re: a few NCSU cases

Thanks Jennifer!

On Thu, Aug 16, 2018 at 8:13 AM, Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov> wrote:

Good morning everyone,

Here's our Vet-LIRN rapid necropsy document.

Take care,

Jen

Jennifer Jones, DVM

Veterinary Medical Officer

Tel: 240-402-5421



From: Jones, Jennifer L
Sent: Wednesday, August 15, 2018 2:49 PM
To: 'Freeman, Lisa' <Lisa.Freeman@tufts.edu>; Darcy Adin <dbadin@ncsu.edu>

Cc: Joshua A Stern <jstern@ucdavis.edu> <[REDACTED] B6 [REDACTED]>

Subject: RE: a few NCSU cases

Thank you, Darcy! We'll be on the lookout for the cases.

Jennifer Jones, DVM

Veterinary Medical Officer

Tel: 240-402-5421



From: Freeman, Lisa [mailto:Lisa.Freeman@tufts.edu]

Sent: Wednesday, August 15, 2018 8:50 AM

To: Darcy Adin <dbadin@ncsu.edu>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>

Cc: Joshua A Stern <jstern@ucdavis.edu>

B6

Subject: RE: a few NCSU cases

That's really interesting, Darcy!

I wonder

B5

Thanks for sharing

Lisa

From: Darcy Adin <dbadin@ncsu.edu>

Sent: Tuesday, August 14, 2018 8:00 PM

To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>

Cc: Freeman, Lisa <lisa.freeman@tufts.edu>; Joshua A Stern <jstern@ucdavis.edu>

B6

B6

Subject: a few NCSU cases

Hi Jennifer,

I wanted to follow up on the case where NCSU sent you necropsy samples (B6 3 yr Fs Great Dane). I've attached her whole blood and plasma taurine concentrations for your records, which were normal.

One of my residents saw a littermate pair of Dobermans back for their 3 month recheck after being diagnosed with DCM while eating Acana. Taurines were normal on these dogs back in April and I honestly didn't have a ton of hope for these dogs (B6) because they were dobermans and their genetic tests were abnormal (the female is homozygous positive for one mutation and negative for a 2nd, the male was heterozygous positive for one mutation and negative for a 2nd). But, 3 months after a diet change to Purina grain-based (and no taurine supplementation), they both have shown significant improvement (the less severely affected female has near normalized and the severely affected male (who was in heart failure) has also significantly improved.

I have asked our resident to report these dogs to the FDA using the portal (B6) so hopefully you will see these soon. She will also be submitting a taurine deficient Golden eating Acana (B6 maybe the lowest I've ever seen).

Thank you!

Darcy

--

Darcy B. Adin, DVM, DACVIM (Cardiology)

Clinical Assistant Professor of Cardiology

North Carolina State University

NC State Veterinary Hospital

1060 William Moore Drive

Raleigh, NC 27607

919-513-6032

--

Darcy B. Adin, DVM, DACVIM (Cardiology)

Clinical Assistant Professor of Cardiology

North Carolina State University

NC State Veterinary Hospital

1060 William Moore Drive

Raleigh, NC 27607

919-513-6032

Discharge Instructions

Patient

Name: B6

Species: Canine

Brown/White Female (Spayed) Pit Bull

Birthdate: B6

Owner

Name: B6

Address:

B6

Patient ID: 439571

Attending Cardiologist:

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

Cardiology Resident:

B6

Cardiology Technician:

B6

Student: B6 V20

Admit Date: B6

Discharge Date: B6

Diagnoses: Dilated cardiomyopathy (DCM) with congestive heart failure

Diagnostic test results and findings:

- **Echocardiogram findings:** The heart is smaller and has better contractile function. There is still dilation but there is marked improvement.
- **Labwork findings:** We will call you with the results

Case summary:

Thank you for bringing B6 for her 3 month recheck! We are glad that she is doing well at home and happy she gained weight! On her three month discharge today, her heart function has improved and her heart has decreased in size, however there is enough dilation that requires long term medication. At this point it is unclear whether her problem is a primary heart disease, secondary to diet or a combination of both. Despite there is a marked improvement in her heart, we will still keep her on her current medications and increase the B6 dose (see section below).

Monitoring at home:

- We would like you to monitor B6 breathing rate and effort at home, ideally during sleep or at a time of rest. The doses of drugs will be adjusted based on the breathing rate and effort.
- In general, most dogs with heart failure that is well controlled have a breathing rate at rest of less than 32 breaths per minute. In addition, the breathing effort, noted by the amount of belly wall motion used for each breath, is fairly minimal if heart failure is controlled.
- An increase in breathing rate or effort will usually mean that you should give an extra dose of B6 if

difficulty breathing is not improved by within 30-60 minutes after giving extra **B6** then we recommend that a recheck exam be scheduled and/or that your dog be evaluated by an emergency clinic.

- o There are instructions for monitoring breathing, and a form to help keep track of breathing rate and drug doses, on the Tufts HeartSmart web site (<http://vet.tufts.edu/heartsmart/at-home-monitoring/>).
- o We also want you to watch for weakness or collapse, a reduction in appetite, worsening cough, or distention of the belly as these findings indicate that we should do a recheck examination.
- o If you have any concerns, please call or have your dog evaluated by a veterinarian. Our emergency clinic is open 24 hours/day.

Recommended Medications:

B6

B6

Diet suggestions:

B6 can continue with her current diet.

Exercise Recommendations:

B6 can continue with her walks, but should not be stimulated to go any faster than the current pacing rhythm she is on. However, if you find that **B6** is lagging behind or needs to stop on a walk then this was too long a walk and shorter walks are advised in the future. Repetitive or strenuous high energy activities (repetitive ball chasing, running fast off-leash, etc.) are generally not advised at this stage.

Recheck Visits:

You have a recheck visit scheduled for Friday, August 16th at 2 pm. Please contact our Cardiology liaison at (508)-887-4696 or email us at cardiovet@tufts.edu for scheduling and non-emergent questions or concerns.

Please visit our HeartSmart website for more information

<http://vet.tufts.edu/heartsmart/>

Prescription Refill Disclaimer:

For the safety and well-being of our patients, your pet must have had an examination by one of our veterinarians within the past year in order to obtain prescription medications.

Ordering Food:

Please check with your primary veterinarian to purchase the recommended diet(s). If you wish to purchase your food from us, please call 7-10 days in advance (508-887-4629) to ensure the food is in stock. Alternatively, veterinary diets can be ordered from online retailers with a prescription/veterinary approval.

Clinical Trials:

Clinical trials are studies in which our veterinary doctors work with you and your pet to investigate a specific disease process or a promising new test or treatment. Please see our website: vet.tufts.edu/cvmc/clinical-studies

Case: **B6**

Owner: **B6**

Discharge Instructions

Cummings Veterinary Medical Center

AT TUFTS UNIVERSITY

Cardiology Liaison: 508-887-4696

B6

Patient ID: 439571

B6 Canine
Years Old Female (Spayed) Pit Bull
Brown/White

Cardiology Appointment Report

Date: 5/13/2019

Attending Cardiologist:

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

Cardiology Resident:

B6

Cardiology Technician:

B6

Student: B6 V20

Presenting Complaint:

Recheck

Doing well at home, breathing rate still pretty low, short walks again (10-15min) and doing fine, does not appear lame in the hind.

O is not checking respiratory rate at home.

Concurrent Diseases:

DCM;

General Medical History:

- 3 months ago, came in through ER

Diet and Supplements:

Purina Pro-Plan Sensitive

Cardiovascular History:

Prior CHF diagnosis? Yes

Prior heart murmur? Unknown

Prior ATE? No

Prior arrhythmia? No

Monitoring respiratory rate and effort at home? Yes, high 20s-low 30s consistently, some effort; stopped monitoring in past few months, breathing better but has not been counting

Cough? No, very rarely, when drinking water

Shortness of breath or difficulty breathing? No

Syncope or collapse? No

Sudden onset lameness? No

Exercise intolerance? No, haven't been doing too much exercise, 10-15 minutes walks in past month, has been doing well on those

Current Medications Pertinent to CV System:

B6

Cardiac Physical Examination:

B6

Muscle condition:

- Normal
- Mild muscle loss
- Moderate cachexia
- Marked cachexia

Cardiovascular Physical Exam:

Murmur Grade:

- None
- I/VI
- II/VI
- III/VI
- IV/VI
- V/VI
- VI/VI

Murmur location/description: -

Jugular vein:

- Bottom 1/3 of the neck
- Middle 1/3 of the neck
- 1/2 way up the neck
- Top 2/3 of the neck

Arterial pulses:

- Weak
- Fair
- Good
- Strong
- Bounding
- Pulse deficits
- Pulsus paradoxus
- Other:

Arrhythmia:

- None
- Sinus arrhythmia
- Premature beats
- Bradycardia
- Tachycardia

Gallop:

- Yes
- No
- Intermittent
- Pronounced
- Other:

Pulmonary assessments:

- Eupneic
- Pulmonary crackles

- Mild dyspnea
- Marked dyspnea
- Normal BV sounds

- Wheezes
- Upper airway stridor

Abdominal exam:

- Normal
- Hepatomegaly
- Abdominal distension

- Mild ascites
- Marked ascites

Problems:

- DCM (diet induced vs. primary)
- History of CHF;
- Allergies / GI disturbances

Diagnostic plan:

- Echocardiogram
- Chemistry profile
- ECG
- Renal profile
- Blood pressure

- Dialysis profile
- Thoracic radiographs
- NT-proBNP
- Troponin I
- Other tests:

B6

Mitral inflow:

- Summated
- Normal
- Delayed relaxation

- Pseudonormal
- Restrictive

B6

Assessment and recommendations:

Patient improved clinically and energy level is back to normal. Echocardiogram revealed improved systolic function and LA size, however still lower than desirable. PHTN is decreased, likely due to management of CHF overall and improved systolic function. Blood work revealed normal kidney values, B6

B6

Final Diagnosis:

DCM with history of L-CHF.

Heart Failure Classification Score:

ISACH Classification:

- Ia
- Ib
- II
- IIIa
- IIIb

ACVIM Classification:

- A
- B1
- B2
- C
- D

M-Mode

IVSd

LVIDd

LVPWd

IVSs

LVIDs

LVPWs

EDV(Teich)

ESV(Teich)

EF(Teich)

%FS

SV(Teich)

Max LA

Ao Diam

LA Diam

LA/Ao

TAPSE

EPSS

2D

SA LA

Ao Diam

SA LA / Ao Diam

IVSd

LVIDd

LVPWd

EDV(Teich)

IVSs

LVIDs

LVPWs

ESV(Teich)

EF(Teich)

%FS

SV(Teich)

LV Major

LV Minor

Sphericity Index

LVLd A/C

B6

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LVEDV MOD A4C
LVLs A4C
LVESV MOD A4C
LVEF MOD A4C
SV MOD A4C

Doppler

MR Vmax
MR maxPG
MV E Vel
MV DecT
MV Dec Slope
MV A Vel
MV E/A Ratio
E'
E/E'
A'
IVRT
AV Vmax
AV maxPG
PV Vmax
PV maxPG
TR Vmax
TR maxPG

B6

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Client:
Address:

B6

All Medical Records

Patient: **B6**
Breed: English Bulldog
DOB: **B6**

Species: Canine
Sex: Male
(Neutered)

Home Phone:
Work Phone:
Cell Phone:

B6

Referring Information

B6

Client:
Patient:

B6

Initial Complaint:

Initial Complaint:

Initial Complaint:

Initial Complaint:

Client:
Patient:

B6

Initial Complaint:

Scanned Record

Initial Complaint:

Cardiology DCM study - will come fasted - u/f samples

SOAP Text Feb 1 2019 11:50AM -

B6

Disposition/Recommendations

Client:
Patient:

B6

Client:
Patient:

B6

Cummings
Veterinary Medical Center
AT TUFTS UNIVERSITY

Foster Hospital for Small Animals

55 Willard Street
North Grafton, MA 01536
(508) 839-5395

Client:	B6
Veterinarian:	
Patient ID:	438225
Visit ID:	

Patient:	B6
Species:	Canine
Breed:	English Bulldog
Sex:	Male (Neutered)
Age:	B6 Years Old

Lab Results Report

Accession ID:			
Test	Results	Reference Range	Units



B6

Client: **B6**
Patient: **B6**

IDEXX Hematology 1/24/19



	B6		
PET OWNER:	B6	B6	LAB ID: 2302815220
SPECIES:	Canine		ORDER ID: 38459535
BREED:			COLLECTION DATE: 1/23/19
GENDER:	Male		DATE OF RECEIPT: 1/24/19
AGE:	8 Years	ACCOUNT #: 84116	DATE OF RESULT: 1/24/19
PATIENT ID: 5689		ATTENDING VET: B6	

IDEXX Services: Senior Profile with Fecal Dx™ Profile, Giardia, Lab 4Dx® Plus and Reflex Quant C6® and UPC Select, SAMPLE/TEST INFO NEEDED, Cardiopet® proBNP-Canine Add-on*

Hematology

1/24/19 (Order Received)
1/24/19 11:05 AM (Last Updated)

3/2/17

TEST	RESULT	REFERENCE VALUE
RBC	B6	5.39 - 8.7 M/μL
Hematocrit		38.3 - 56.5 %
Hemoglobin		13.4 - 20.7 g/dL
MCV		59 - 76 fL
MCH		21.9 - 26.1 pg
MCHC		32.6 - 39.2 g/dL
% Reticulocyte		%
Reticulocytes		10 - 110 K/μL
Reticulocyte Hemoglobin		22.3 - 29.6 pg
WBC		4.9 - 17.6 K/μL
% Neutrophils		%
% Lymphocytes		%
% Monocytes		%
% Eosinophils		%
% Basophils		%
Neutrophils		2.94 - 12.67 K/μL
Lymphocytes		1.06 - 4.95 K/μL
Monocytes		0.13 - 1.15 K/μL
Eosinophils		0.07 - 1.49 K/μL
Basophils		0 - 0.1 K/μL
Platelets	143 - 448 K/μL	
Remarks	B6	SLIDE REV...

Client: **B6**
Patient: **B6**

IDEXX Hematology 1/24/19



B6 PET OWNER: **B6** DATE OF RESULT: **1/24/19** LAB ID: 2302815220

Chemistry



1/24/19 (Order Received)
1/24/19 11:06 AM (Last Updated)

3/2/17

TEST	RESULT	REFERENCE VALUE
Glucose	B6	63 - 114 mg/dL
IDEXX SDMA		0 - 14 µg/dL
Creatinine		0.5 - 1.5 mg/dL
BUN		9 - 31 mg/dL
BUN: Creatinine Ratio		
Phosphorus		2.5 - 6.1 mg/dL
Calcium		8.4 - 11.8 mg/dL
Sodium		142 - 152 mmol/L
Potassium		4.0 - 5.4 mmol/L
Na: K Ratio		28 - 37
Chloride		108 - 119 mmol/L
TCO2 (Bicarbonate)		13 - 27 mmol/L
Anion Gap		11 - 26 mmol/L
Total Protein		5.5 - 7.5 g/dL
Albumin		2.7 - 3.9 g/dL
Globulin		2.4 - 4.0 g/dL
Albumin: Globulin Ratio		0.7 - 1.5
ALT		18 - 121 U/L
AST		16 - 55 U/L
ALP		5 - 160 U/L
GGT		0 - 13 U/L
Bilirubin - Total		0.0 - 0.3 mg/dL
Bilirubin - Unconjugated		0.0 - 0.2 mg/dL
Bilirubin - Conjugated		0.0 - 0.1 mg/dL
Cholesterol		131 - 345 mg/dL
Amylase		337 - 1,469 U/L
Lipase		138 - 755 U/L
Creatine Kinase		10 - 200 U/L

B6

Client: **B6**
Patient: **B6**

IDEXX Hematology 1/24/19



B6 PET OWNER **B6** DATE OF RESULT: **1/24/19** LAB ID: 2302815220

Chemistry (continued)

TEST	RESULT	REFERENCE VALUE
Hemolysis Index	B6	B6
Lipemia Index	B6	
Cardiopet proBNP - Canine	B6	0 - 900 pmol/L

B6

B6

B6

Please note: Complete interpretive comments for all concentrations of Cardiopet proBNP are available in the online directory of services. Serum specimens received at room temperature may have decreased NT-proBNP concentrations.

Endocrinology

1/24/19 (Order Received)
1/24/19 11:05 AM (Last Updated)

3/2/17

TEST	RESULT	REFERENCE VALUE
Total T4	B6	1 - 4 µg/dL

B6

Serology

1/24/19 (Order Received)
1/24/19 11:05 AM (Last Updated)

TEST	RESULT
Heartworm Antigen	B6

Client: **B6**
Patient:

IDEXX Hematology 1/24/19



 **B6** PET OWNER: **B6** DATE OF RESULT: **1/24/19** LAB ID: 2302815220

Serology (continued)

TEST	RESULT
Ehrlichia canis / ewingii	a B6
Lyme (Borrelia burgdorferi)	b
Anaplasma phagocytophilum / platys	

a **B6**

b **B6**

For more information on the diagnosis and management of Tick/Vector-borne diseases, see www.idexx.com/4DxGuide.

Other



1/24/19 (Order Received)
1/24/19 11:05 AM (Last Updated)

TEST	RESULT
More Information Needed	B6

Client: **B6**
 Patient: **B6**

cbc and profile 2/1/19

Cummings School of Veterinary Medicine

Clinical Pathology Laboratory
 200 Westboro Road
 North Grafton, MA 01536

Name/DOB: **B6** Sex: CM Provider: **B6**
 Patient ID: 438225 Age: 8 Order Location: V320559: Investigation into
 Phone number: Species: Canine Sample ID: 1902010102
 Collection Date: 2/1/2019 11:52 AM Breed:
 Approval date: 2/1/2019 12:57 PM

TEST NAME	IN RANGE	RESULT	OUT OF RANGE	RANGE	UNITS	REFERENCE RANGE
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CBC, Comprehensive, Sm Animal (Research) CSTCYR

WBC (ADVIA)	B6			[*]	K/uL	4.40-15.10	
RB C (Advia)				[*]	M/uL	5.80-8.50	
Hemoglobin (ADVIA)				[*]	g/dL	13.3-20.5	
Hematocrit (Advia)				[*]	%	39-55	
MCV (ADVIA)				[*]	fL	64.5-77.5	
MCH (ADVIA)				[*]	pg	21.3-25.9	
CHCM					g/dl		
MCHC (ADVIA)					g/dL	31.9-34.3	
RDW (ADVIA)					[*]	11.9-15.2	
Platelet Count (Advia)			B6		[*]*	K/uL	173-486
Mean Platelet Volume (Advia)				[*]	fl	8.29-13.20	
02/01/19 12:12 PM	B6						
Platelet Crit			B6	[*]*	%	0.129-0.403	
02/01/19 12:12 PM	B6						
PDW	B6				%		
Reticulocyte Count (Advia)			B6	[*]*	%	0.20-1.60	
Absolute Reticulocyte Count (Advia)					[*]*	K/uL	14.7-113.7
CHr						pg	
MCVr						fl	
Comments (Hematology)							

Microscopic Exam of Blood Smear (Advia) CSTCYR

Seg Neuts (%)	B6			[*]	%	43-86	
Lymphocytes (%)				[*]	%	7-47	
Monocytes (%)				[*]	%	1-15	
Eosinophils (%)				[*]	%	0-16	
Seg Neutrophils (Abs) Advia					[*]	K/uL	2.800-11.500
Lymphs (Abs) Advia					[*]	K/uL	1.00-4.80
Mono (Abs) Advia				[*]	K/uL	0.10-1.50	
Eosinophils (Abs)				[*]	K/uL	0.00-1.40	

Sample ID: 1902010102/1
 This report continues... (Final)

Reviewed by: _____

Client: **B6**
 Patient:

cbc and profile 2/1/19

Cummings School of Veterinary Medicine

Clinical Pathology Laboratory
 200 Westboro Road
 North Grafton, MA 01536

Name/DOB: **B6** Sex: CM Provider: **B6**
 Patient ID: 438225 Age: 8 Order Location: V320559: Investigation into
 Phone number: Species: Canine Sample ID: 1902010102
 Collection Date: 2/1/2019 11:52 AM Breed:
 Approval date: 2/1/2019 12:57 PM

TEST NAME	RESULT	RANGE	UNITS	REFERENCE RANGE
	IN RANGE	OUT OF RANGE		

Microscopic Exam of Blood Smear (Advia) (cont'd)

CSTCYR

Advia
 WBC Morphology

B6

RBC Morphology

Research Chemistry Profile - Small Animal (Cobas)

SMACHUNSKI

Glucose	[*]	mg/dL	67-135
Urea	[*]	mg/dL	8-30
Creatinine	[*]	mg/dL	0.6-2.0
Phosphorus	[*]	mg/dL	2.6-7.2
Calcium 2	[*]	mg/dL	9.4-11.3
Magnesium 2+	[*]	mEq/L	1.8-3.0
Total Protein	[*]	g/dL	5.5-7.8
Albumin	[*]	g/dL	2.8-4.0
Globulins	[*]	g/dL	2.3-4.2
A/G Ratio	[*]		0.7-1.6
Sodium	[*]	mEq/L	140-150
Chloride	[*]	mEq/L	106-116
Potassium	[*]	mEq/L	3.7-5.4
tCO2(Bicarb)	[*]	mEq/L	14-28
AGAP	[*]		8.0-19.0
NA/K	[*]		29-40
Total Bilirubin	[*]	mg/dL	0.10-0.30
Alkaline Phosphatase	[*]	U/L	12-127
GGT	[*]	U/L	0-10
ALT	[*]	U/L	14-86
AST	[*]	U/L	9-54
Creatine Kinase	[*]	U/L	22-422
Cholesterol	[*]	mg/dL	82-355
Triglycerides	[*]	mg/dl	30-338
Amylase	[*]	U/L	409-1250
Osmolality (calculated)	[*]	mmol/L	291-315

B6

B6

B6

Sample ID: 1902010102/2
 END OF REPORT (Final)

Reviewed by: _____
 Page 2

Client: **B6**
Patient: **B6**

NT-proBNP 2/1/19

IDEXX Reference Laboratories

Client: **B6** Patient: **B6**

Client: **B6**
Patient: **B6**
Species: CANINE
Breed: ENGLISH_BULLDOG
Gender: MALE NEUTERED
Age: 8Y

Date: 02/01/2019
Requisition #: 438225
Accession #: **B6**
Ordered by: **B6**

IDEXX VetConnect 1-888-433-9967
TUFTS UNIVERSITY
200 WESTBORO RD
NORTH GRAFTON, Massachusetts 01536
508-839-5395
Account #88933

CARDIOPET proBNP - CANINE

Test	Result	Reference Range	Low	Normal	High
CARDIOPET proBNP - CANINE	B6	0 - 900 pmol/L	HIGH		B6

Comments:

1. **B6**

Client: **B6**
Patient: **B6**

CBC/CHEM



Tufts Cummings School Of Veterinary Medicine

200 Westboro Road
North Grafton, MA 01536

DUPLICATE

Name/DOB: **B6** Sex: CM Provider: **B6**
Patient ID: 438225 Age: 8 Order Location: V320539: Investigation into
Phone number: Species: Canine Sample ID: 1902010102
Collection Date: 2/1/2019 11:52 AM Breed:
Approval date: 2/1/2019 12:57 PM

CBC, Comprehensive, Sm Animal (Research)

		Ref. Range/Males
CSTCYR		
WBC (ADVIA)	B6	4.40-15.10 K/uL
RBC (Advia)	B6	5.80-8.50 M/uL
Hemoglobin (ADVIA)	B6	13.3-20.5 g/dL
Hematocrit (Advia)	B6	39-55 %
MCV (ADVIA)	B6	64.5-77.5 fL
MCH (ADVIA)	B6	21.3-25.9 pg
CHCM		
MCHC (ADVIA)		31.9-34.3 g/dL
RDW (ADVIA)		11.9-15.2
Platelet Count (Advia)	H B6	173-486 K/uL
Mean Platelet Volume (Advia)		8.29-13.20 fl
02/01/19 12:12 PM	B6	
Platelet Crit	H B6	0.129-0.403 %
02/01/19 12:12 PM	B6	
PDW		
Reticulocyte Count (Advia)	H B6	0.20-1.60 %
Absolute Reticulocyte Count (Advia)	H B6	14.7-113.7 K/uL
CHr		
MCVr		
Comments (Hematology)		

Microscopic Exam of Blood Smear (Advia)

		Ref. Range/Males
CSTCYR		
Seg Neuts (%)	B6	43-86 %
Lymphocytes (%)	B6	7-47 %
Monocytes (%)	B6	1-15 %
Eosinophils (%)	B6	0-16 %
Seg Neutrophils (Abs) Advia	B6	2.800-11.500 K/uL
Lymphs (Abs) Advia	B6	1.00-4.80 K/uL
Mono (Abs) Advia	B6	0.10-1.50 K/uL
Eosinophils (Abs) Advia	B6	0.00-1.40 K/uL
WBC Morphology		
RBC Morphology		

Research Chemistry Profile - Small Animal (Cobas)

Sample ID: 1902010102/1
This report continues... (Final)

Reviewed by: _____

Client:
Patient:

B6

CBC/CHEM



Tufts Cummings School Of Veterinary Medicine

200 Westboro Road
North Grafton, MA 01536

DUPLICATE

Name/DOB: B6	Sex: CM	Provider: B6
Patient ID: 438225	Age: 8	Order Location: V320559: Investigation into
Phone number:	Species: Canine	Sample ID: 1902010102
Collection Date: 2/1/2019 11:52 AM	Breed:	
Approval date: 2/1/2019 12:57 PM		

Research Chemistry Profile - Small Animal (Cobas) (cont'd)

SMACHUNSKI	B6	Ref. Range/Males
Glucose		67-135 mg/dL
Urea		8-30 mg/dL
Creatinine		0.6-2.0 mg/dL
Phosphorus		2.6-7.2 mg/dL
Calcium 2		9.4-11.3 mg/dL
Magnesium 2+		1.8-3.0 mEq/L
Total Protein		5.5-7.8 g/dL
Albumin		2.8-4.0 g/dL
Globulins		2.3-4.2 g/dL
A/G Ratio		0.7-1.6
Sodium		140-150 mEq/L
Chloride		106-116 mEq/L
Potassium		3.7-5.4 mEq/L
tCO2(Bicarb)		14-28 mEq/L
AGAP		8.0-19.0
NA/K		29-40
Total Bilirubin		0.10-0.30 mg/dL
Alkaline Phosphatase		12-127 U/L
GGT		0-10 U/L
ALT	14-86 U/L	
AST	9-54 U/L	
Creatine Kinase	22-422 U/L	
Cholesterol	82-355 mg/dL	
Triglycerides	30-338 mg/dl	
Amylase	409-1250 U/L	
Osmolality (calculated)	291-315 mmol/L	

Sample ID: 19020101022
REPRINT: Orig. printing on 2/1/2019 (Final)

Reviewed by: _____
Page 2

Client:
Patient:

B6

Taurine level

27291 PLD
WB (B)

B6

Amino Acid Laboratory Sample Submission Form

Amino Acid Laboratory, 1089 Veterinary Medicine Drive, Davis, Ca 95616
Telephone: 530-752-5058, Fax: 530-752-4698
Email: ucd.aminoacid.lab@ucdavis.edu
www.vetmed.ucdavis.edu/labs/amino-acid-laboratory

Veterinarian Contact: **B6**

Clinic/Company Name: Tufts Cummings School of Vet. Med. - Clinical Pathology Laboratory

Address: 200 Westboro Road, North Grafton, MA, 015369

Email: Clinpath@tufts.edu cardiovet@tufts.edu

Telephone: 508-887-4669 Fax: 508-839-7936

Billing Contact: **B6** Email: **B6**

Billing Contact Phone: **B6** Tax ID: _____

Patient Name: **B6** Species: CANINE

Breed: English Bulldog Owner's Name: **B6**

Current Diet: Wellness Core

Sample type: Plasma Whole Blood Urine Food Other _____

Test: Taurine Complete Amino Acids Other: _____

Taurine Results (lab use only)

Plasm **B6** Whole Blood: **B6** Urine: _____ Food: _____

	Plasma (nMol/ml)		Whole Blood (nMol/ml)	
	Normal Range	No known risk for deficiency	Normal Range	No known risk for deficiency
Cat	80-120	>40	300-600	>200
Dog	60-120	>40	200-350	>150

* Please note with the recent increase in the number of dogs screened for taurine deficiency, we are seeing dogs with values within the reference ranges (or above the "no known risk for deficiency range") yet are still exhibiting signs of cardiac disease. Veterinarians are welcome to contact our laboratory for assistance in evaluating your patient's results.

Client: **B6**
 Patient: **B6**

Diet history 2/1/19

CARDIOLOGY DIET HISTORY FORM
 Please answer the following questions about your pet

Pet's name: **B6** Owner's name: **B6** Today's date: **02-01-19**

1. How would you assess your pet's appetite? (mark the point on the line below that best represents your pet's appetite)
 Example: **Poor** _____ **Excellent**
Poor _____ **Excellent**

2. Have you noticed a change in your pet's appetite over the last 1-2 weeks? (check all that apply)
 Eats about the same amount as usual Eats less than usual Eats more than usual
 Seems to prefer different foods than usual Other _____

3. Over the last few weeks, has your pet (check one)
 Lost weight Gained weight Stayed about the same weight Don't know

4. Please list below ALL pet foods, people food, treats, snack, dental chews, rawhides, and any other food item that your pet currently eats. Please include the brand, specific product, and flavor so we know exactly what you pet is eating.

Examples are shown in the table – please provide enough detail that we could go to the store and buy the exact same food.

Food (include specific product and flavor)	Form	Amount	How often?	Fed since
Nutro Grain Free Chicken, Lentil, & Sweet Potato Adult	dry	1 1/2 cup	2x/day	Jan 2018
85% lean hamburger	microwaved	3 oz	1x/week	Jan 2015
Pupperoni original beef flavor	treat	1/2	1x/day	Aug 2015
Rawhide	treat	6 inch twist	1x/week	Dec 2015
Wellness Core Canned chicken	wet	4 oz	7x/day	Dec 2015
Wellness Core fish	dry	1/4 cup	2x/day	Dec 2015
Wellness Core	treat	3 pcs	1x/day	11
(See B6 for exact brands/formulas)				

*Any additional diet information can be listed on the back of this sheet

5. Do you give any dietary supplements to your pet (for example: vitamins, glucosamine, fatty acids, or any other supplements)? Yes No If yes, please list which ones and give brands and amounts:

	Brand/Concentration	Amount per day
Taurine	<input type="checkbox"/> Yes <input type="checkbox"/> No _____	_____
Carnitine	<input type="checkbox"/> Yes <input type="checkbox"/> No _____	_____
Antioxidants	<input type="checkbox"/> Yes <input type="checkbox"/> No _____	_____
Multivitamin	<input type="checkbox"/> Yes <input type="checkbox"/> No _____	_____
Fish oil	<input type="checkbox"/> Yes <input type="checkbox"/> No _____	_____
Coenzyme Q10	<input type="checkbox"/> Yes <input type="checkbox"/> No _____	_____
Other (please list): Example: Vitamin C	Nature's Bounty	500 mg tablets – 1 per day
_____	_____	_____
_____	_____	_____
_____	_____	_____

6. How do you administer pills to your pet?
 I do not give any medications
 I put them directly in my pet's mouth without food
 I put them in my pet's dog/cat food
 I put them in a Pill Pocket or similar product
 I put them in foods (list foods): _____

CHANGING DIET TO ROYAL CANIN EARLY ON DIET

Client: **B6**
Patient:

Troponin 2/1/19



Gastrointestinal Laboratory
Dr. J.M. Steiner
Department of Small Animal Clinical Sciences
Texas A&M University
4474 TAMU
College Station, TX 77843-4474



Website User ID: clinpath@tufts.edu

GI Lab Assigned Clinic ID: 11405

Dr. Freeman
Tufts University-Clinical Pathology Lab
Attn: **B6**
200 Westboro Road
North Grafton, MA 01536
USA

Phone: 508 887 4669
Fax: 9 508 839 7936
Animal Name:
Owner Name: **B6**
Species: Canine
Date Received: Feb 12, 2019

GI Lab Accession: **B6**

Test	Result	Control Range	Assay Date
Ultra-Sensitive Troponin I Fasting	B6	≤0.06	02/12/19

B6

Comments:

Client:
Patient:

B6

Troponin 2/1/19

**Important
Notices:**

Internal Medicine Conference

Join us for a unique continuing education event in Phuket, Thailand Oct 7th - 11th, 2019. For details see <http://texasimconference.tamu.edu>

Ongoing studies

Cobalamin Supplementation Study- Dogs and cats with cobalamin deficiency with normal PLI, and either normal or low (consistent with EPI) TLI to compare the efficacy of oral vs parenteral cobalamin supplementation. Contact Dr. Chang at chchang@cvm.tamu.edu for further information.

Chronic Pancreatitis with Uncontrolled Diabetes Mellitus- Seeking dogs with chronic pancreatitis and uncontrolled diabetes mellitus for enrollment into a drug trial (medication provided at no cost). Contact Dr. Sue Yee Lim at slim@cvm.tamu.edu or Dr. Sina Marsilio at smarsilio@cvm.tamu.edu

Dogs with Primary Hyperlipidemia- Prescription diet naive dogs newly diagnosed with primary hyperlipidemia are eligible to be enrolled in a dietary trial. Contact Dr. Lawrence at ylawrence@cvm.tamu.edu for more information.

Dogs with Chronic Pancreatitis- Dogs with chronic pancreatitis (cPLI >400 µg/L) and hypertriglyceridemia (>300 mg/dl) are eligible to be enrolled in a dietary trial. Contact Dr. Lawrence at ylawrence@cvm.tamu.edu

Chronic enteropathies in dogs- Please fill out this brief form <http://tinyurl.com/ibd-enroll> to see if your patient qualifies.

Feline Chronic Pancreatitis- Cats with chronic pancreatitis for more than 2 weeks and fPLI >10 µg/L are eligible for enrollment into a treatment trial investigating the efficacy of prednisolone or cyclosporine. Please contact Dr. Yamkate for further information at pyamkate@cvm.tamu.edu.

We can not accept packages that are marked "Bill Receiver"

Use our preprinted shipping labels to save on shipping. Call 979-862-2861 for assistance. The GI Lab is not here to accept packages on the weekend. Samples may be compromised if you ship for arrival on Saturday or Sunday or if shipped via US Mail.

GI Lab Contact Information

Phone: (979) 862-2861

Fax: (979) 862-2864

Email: gilab@cvm.tamu.edu

vetmed.tamu.edu/gilab

Client: **B6**
Patient:

Vitals Results

2/1/2019 11:00:04 AM

Weight (kg)

B6

Patient History

01/28/2019 03:52 PM

Appointment

02/01/2019 08:05 AM

UserForm

02/01/2019 08:05 AM

UserForm

02/01/2019 10:37 AM

UserForm

02/01/2019 10:38 AM

UserForm

02/01/2019 10:44 AM

Purchase

02/01/2019 11:00 AM

Vitals

02/01/2019 12:03 PM

UserForm

02/01/2019 12:50 PM

Appointment

02/01/2019 12:58 PM

Prescription

02/20/2019 12:08 PM

Patient Merge

02/21/2019 04:32 PM

Purchase

02/21/2019 04:32 PM

Purchase

B6

B6

B6

Male (Neutered)

Canine English Bulldog Brown/White

Patient ID: 438225

STANDARD CONSENT FORM

I am the owner, or agent for the owner, of the above described animal and have the authority to execute consent. I hereby authorize the Cummings School of Veterinary Medicine at Tufts University (herein after Cummings School) to prescribe for treatment of said animal according to the following terms and conditions.

Cummings School and its officers, agents and employees will provide such veterinary medical care as they deem reasonable and appropriate under the circumstances.

Cummings School and its officers, agents, and employees will use all reasonable care in the treatment of the above mentioned animal, but will not be liable for any loss or accident that may occur or any disease that may develop as a result of the care and treatment provided.

I understand that the above identified animal may be treated by Cummings School students under the supervision and assistance of Cummings School staff members.

In executing this form, I hereby expressly acknowledge that risks, benefits and alternative forms of treatment have been explained to me. I understand said explanation, and I consent to treatment. Should any additional treatments or diagnostics be required during the continued care of my animal, I understand that I will be given the opportunity to discuss and consent to these additional procedures. I understand that further or additional treatment may be required without an opportunity for discussion and consideration by me, in the case of the development of any life-threatening emergency during the continued care of my animal and I expressly consent to all such reasonable treatment as required. I realize and understand that results cannot be guaranteed.

If any equipment is left with the animal, it will be accepted with the understanding that Cummings School assumes no responsibility for any loss of equipment that may occur.

I agree to pick up the animal when notified that it is ready for release.

In the event the animal is not picked up, and if ten (10) days have expired since a registered letter was sent to the address given above, notifying me to call for the animal, the animal may be sold or otherwise disposed of in a humane manner and the proceeds applied to the charges incurred in caring and treating the animal. Failure to remove said animal will not and does not relieve me from obligation for the costs of services rendered.

I hereby grant to the Cummings School of Veterinary Medicine at Tufts University, its officers and employees (collectively referred to herein as Cummings School), and its agents and assigns (the Grantees) the irrevocable rights to photograph / videotape the operation or procedure to be performed, including appropriate and otherwise use such photographs and images for, and in connection with, a Grantee's medical, scientific, educational, and publicity purposes, by any means, methods and media (print and electronic) now known or, in the future, developed that the Grantee deems appropriate (provided that such photographs and images may not be used in for-profit commercials, unless such commercials are publicizing educational programs at Cummings School). As medical and surgical treatment necessitates the removal of tissue, cells, fluids or body parts of my animal, I authorize the Grantees to dispose of or use these tissues, cells, fluids or body parts for scientific and educational purposes.

I understand that a FINANCE CHARGE will be applied to all accounts unpaid after 30 days. The FINANCE CHARGE is computed on a monthly rate of 1.33% per month, which is an annual percentage rate of 16% applied to the average daily balance outstanding, with a minimum fee of \$50.

I do further agree that should any payment, or the full amount of the sum stated above, become overdue more than 20 days from the above-agreed upon time of payment or payments, the entire balance shall be considered in default and become due and payable. I further agree to be responsible for any or all collection agency and/or attorney fees necessary to collect the full amount.

I do further agree to comply with hours of visitation in conjunction with our Hospital's policy.

I have read, understand, and agree to accept the terms and conditions herein.

Owner's name: Date: 2/1/2019

Owner's address:

Date

If the individual admitting the animal is someone other than the legal owner, please complete the portion below:

The owner of the animal has granted me authority to obtain medical treatment and to bind this owner to pay the veterinary medical services provided at Cummings School pursuant to the terms and conditions described above.

Authorized Agent - Please Print

Agent's Signature

Street Address

Date

Town/City State Zip

B6

Patient ID: 438225

B6 Canine

B6 Years Old Male (Neutered) English

Bulldog

Body Weight: Weight (kg) 0.00

Brachycephalic Consent Form

Anesthesia, Sedation and Hospitalization

Brachycephalic is a term for "short-nosed". Several dog breeds may experience difficulty breathing due to the shape of their head, muzzle and throat. Shorter nosed dogs include English Bulldogs, French Bulldogs, Pugs, Boston Terriers and many other breeds. The shorter than average nose and face in proportion to their body size can cause problems for these breeds at times. Owners with brachycephalic breeds must pay extra attention to their animals during exercise, heat and while obtaining veterinary care.

Overview

The purpose of this form is to inform you of the risks associated with anesthesia/sedation and occasionally hospitalization, which are inherent for dogs with shorter noses (brachycephalic). Not all of these problems may apply to your dog, but these are part of the brachycephalic syndrome. Please discuss any specific concerns with your attending veterinarian.

Respiratory problems

Brachycephalic dogs have a shortened skull, resulting in a compressed nasal passage and abnormal throat anatomy. The abnormal upper airway anatomy causes increased negative pressure while taking a breath, leading to inflammation, deformation of throat tissues, and obstruction of breathing. We encourage corrective surgery in moderate to severely affected dogs.

Cooling problems

As dogs cool by panting, dogs with narrowed airways may have difficulty cooling themselves. This may be made worse by anxiety or stress.

Stomach and intestinal problems

Brachycephalic dogs may swallow a lot of air which can lead to increased vomiting or regurgitation, and this could lead to pneumonia. If possible, we pre-treat brachycephalic dogs with medications to reduce stomach acids, and to promote stomach emptying.

Restraint challenges

Due to their airway, and in some bulldogs, their intrinsic personality as "tough" dogs, it may be difficult to restrain them safely. This is a particularly significant problem with more aggressive dogs. We

occasionally need to sedate them, or ask family members to help with some routine procedures to avoid unnecessary stress on the patient.

Sedation and anesthesia

While sedation and anesthesia are commonly performed in brachycephalic breeds, especially bulldogs, recovery from anesthesia may be more difficult for these patients due to a narrowed airway. We have our anesthesia team very closely involved in sedation and anesthesia of brachycephalic breeds especially bulldogs. They have found that careful monitoring is essential to a good outcome. In fact, many dog owners travel some distance in order to ensure that a Tufts board-certified anesthesiologist is present during anesthesia or sedation to minimize the risk of complications.

We consider brachycephalic dogs a high risk population. Please be sure you talk with your doctor about the following:

1. Any medical and/or surgical treatment alternatives for your pet
2. Sufficient details of this consent form and how they apply to your dog
3. How fully your pet might respond or recover and how long it could take
4. The most common complications and how serious they might be

I grant permission for my pet to undergo general anesthesia/sedation/hospitalization at Tufts Foster Hospital for Small Animals at the Cummings School of Veterinary Medicine.

I am aware that my pet has physical characteristics that make anesthesia and sedation more challenging and possibly more risky than for the average dog with a longer nose.

I am aware that brachycephalic breeds, such as the English and French bulldog, Boston Terrier, Pug, and Pekingese have a shortened skull, resulting in a compressed nasal passage and abnormal throat anatomy. The abnormal upper airway anatomy causes increased negative pressure while taking a breath, leading to inflammation, deformation of throat tissues, and obstruction of breathing.

I am aware that if my brachycephalic pet undergoes sedation or general anesthesia the potential complications include partial or complete airway obstruction during recovery and regurgitation/vomiting which could lead to aspiration pneumonia/respiratory distress. With airway surgery, death has been reported as a rare complication in <3% of cases.

I am aware that anesthetizing or sedating a brachycephalic animal for any reason can lead to the development of significant complications as described in this document.

Please answer YES or NO to the following questions:

My pet has demonstrated difficulty breathing, exercise intolerance, and/or collapse episodes.

YES NO

My pet has demonstrated difficulty eating, such as gagging, vomiting, and regurgitation.

YES NO

My pet is receiving or has recently received a non-steroidal anti-inflammatory drug (e.g., Rimadyl)

YES NO

Your signature indicates that you have read and understand the above information and give your consent for treatment.

Owner signature

Date: 2/1/2019

B6

Cardiology Liaison: 508-887-4696

Discharge Instructions

Patient

Name: B6

Species: Canine

Brown/White Male (Neutered) English

Bulldog

Birthdate: B6

Owner

Name: B6

Address: B6

Patient ID: 438225

Attending Cardiologist:

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

Cardiology Resident:

B6

Cardiology Technician:

B6

Veterinary Nutritionist : Dr. Lisa Freeman

Student: B6 /19

Admit Date: 2/1/2019 10:36:11 AM

Discharge Date: 2/1/2019

Diagnoses: Arrhythmogenic right ventricular cardiomyopathy (ARVC) with marked right heart enlargement, ventricular premature depolarizations, and left ventricular dysfunction; possible component of diet-related cardiomyopathy

Clinical findings: B6 has been diagnosed with a primary heart muscle disease called arrhythmogenic right ventricular cardiomyopathy (ARVC). This disease is common in bulldogs and is characterized by replacement of the normal heart muscle by fat and/or scar tissue which may result in serious ventricular arrhythmias (abnormal heart rhythms originating from the lower chamber of the heart), cardiac enlargement and congestive heart failure, or both. Dogs with ARVC may experience syncope (fainting) or sudden death as the result of ventricular arrhythmia. Though we cannot reverse the changes in the heart muscle, we can control the heart disease with medical management.

The following diagnostic test results were obtained today:

ECG findings: The ECG shows a number of premature ventricular contractions (VPCs) originating from the right ventricle.

Echocardiogram findings: The right ventricle is moderate to markedly enlarged. The left ventricle is mildly dilated with the left ventricular free wall thinned. There is reduced vigor of contraction of the left ventricle. The left atrium is mildly to moderately enlarged. The right atrium is moderately to markedly enlarged. There is some mitral and tricuspid valve regurgitation. The hepatic veins are markedly distended.

Monitoring at home: Please monitor for any signs of lethargy, weakness, pale gums, cough, shortness of breath, inappetence, or collapse. If a collapsing episode is noted, please check your dog's gum color and try to get a sense of whether the heart rate is slow or fast. If you have an iPhone or Android smartphone device, you may want to explore the

option of purchasing the Kardia Mobile device which will allow you to monitor the heart rate and rhythm at home (www.alivetec.com). If you have any concerns, please call or have your dog evaluated by a veterinarian. Our emergency clinic is open 24 hours/day.

B6 may also benefit from wearing a Holter EKG, which is a harnessed EKG that he would wear for 24 hours. We can place that here, and send him home for the 24-hour duration. He would then return here the next day where we can remove the Holter and analyze his heart rhythm to fully assess his arrhythmia. Call if you decide to do this test.

Recommended Medications:

B6

NEXT DOSE DUE: You can start **B6** at any time.

Diet suggestions: Dogs with ARVC may benefit from the addition of omega-3 fatty acids (fish oil) to the diet. Diets such as the Royal Canin Boxer or Early Cardiac diet, or Hill's j/d have ample fish oil and may not require much (or any) additional supplementation. Additional information on supplements such as fish oil or other supplements that you might have questions about may be found on the Tufts HeartSmart web site: (<http://vet.tufts.edu/heartsmart/diet/>).

- The FDA is currently investigating an apparent association between diet and a type of heart disease called dilated cardiomyopathy. The exact cause is still unclear, but it appears to be associated with boutique diets and those containing exotic ingredient or are grain-free. Therefore, we are currently recommending that dogs do not eat these types of diets.
- We recommend switching **B6** to commercial diet made by a well-established company that is not grain-free and does not contain any exotic ingredients, such as kangaroo, duck, lamb, venison, lentils, peas, beans, buffalo, tapioca, barley, and chickpeas.
- The FDA issued a statement regarding this issue (<https://www.fda.gov/AnimalVeterinary/NewsEvents/CVMUpdates/uom613305.htm>) and a recent article published by Dr. Lisa Freeman on the Cummings School's Pet Foodology blog can further explain these findings (<http://vetnutrition.tufts.edu/2018/06/a-broken-heart-risk-of-heart-disease-in-boutique-or-grain-free-diets-and-exotic-ingredients/>).
- Our nutritionists have compiled a list of dog foods that are good options for dogs with heart disease.

Dry Food Options:

Royal Canin Early Cardiac (veterinary diet)

Royal Canin Boxer

Purina Pro Plan Adult Weight Management

Purina Pro Plan Bright Mind Adult Small Breed Formula

Canned Food Options:

Hill's Science Diet Adult Beef and Barley Entree

Hill's Science Diet Adult 1-6 Healthy Cuisine Roasted Chicken, Carrot, and Spinach Stew

Royal Canin Mature 8+

We recommend slowly introducing one of the diets on the above list as follows: 25% of the new diet mixed with 75% old diet for 2-3 days, then 50:50, etc.

Hopefully you can find a diet on the list that **B6** will enjoy!

If your dog has special nutritional needs or requires a homecooked diet, we recommend you schedule an appointment with our nutritionists (508-887-4696).

Exercise recommendations: Generally we recommend limited activity for dogs with heart disease – Leash walk only is ideal. Repetitive or strenuous high energy activities (repetitive ball chasing, running fast off-leash, etc.) are not recommended as these activities may result in worsened arrhythmia or even sudden death.

Recheck visits: We would like to recheck **B6** in 3 months, at which point we can discuss additional medications and

treatments as needed (such as antiarrhythmics). We will likely recommend recheck ECGs every 3 months, or you can purchase the AliveCor and send us an ECG about once a month.

Thank you for entrusting us with **B6**'s care. Please contact our Cardiology liaison at (508)-887-4696 or email us at cardiovet@tufts.edu for scheduling and non-emergent questions or concerns. Please visit our HeartSmart website for more information

Please visit our HeartSmart website for more information
<http://vet.tufts.edu/heartsmart/>

Prescription Refill Disclaimer:

For the safety and well-being of our patients, your pet must have had an examination by one of our veterinarians within the past year in order to obtain prescription medications.

Ordering Food:

Please check with your primary veterinarian to purchase the recommended diet(s). If you wish to purchase your food from us, please call 7-10 days in advance (508-887-4629) to ensure the food is in stock. Alternatively, veterinary diets can be ordered from online retailers with a prescription/veterinary approval.

Clinical Trials:

Clinical trials are studies in which our veterinary doctors work with you and your pet to investigate a specific disease process or a promising new test or treatment. Please see our website: vet.tufts.edu/cvmc/clinical-studies

Case: **B6**

Owner: **B6**

Discharge Instructions

Cummings Veterinary Medical Center

AT TUFTS UNIVERSITY

Cardiology Liaison: 508-887-4696

B6

Patient ID: 438225

B6

Canine

B6 Years Old Male (Neutered) English Bulldog
Brown/White

Cardiology Appointment Report Enrolled in DCM Study

Date: 2/1/2019

Attending Cardiologist:

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

Cardiology Resident:

B6

Cardiology Technician:

B6

Student: **B6** V19

Presenting Complaint: Here for possible entry to DCM study. Half-sister **B6** came in last month for CHF. **B6** had high proBNP on bloodwork **B6**

Concurrent Diseases:

Anaplasmosis(+) on IDEXX panel.

History of **B6** trauma when young.

General Medical History:

B6

Fasted today.

Had reason for concern of DCM based on diet and sister, came in based on NTproBNP level.

Diet and Supplements:

Grain free diet- Wellness Core. Chicken and Turkey wet food 4oz BID. Fish dry food 1/4 cup BID.

No supplements or treats.

Cardiovascular History:

Prior CHF diagnosis? N

Prior heart murmur? N

Prior ATE? N

Prior arrhythmia? N

Monitoring respiratory rate and effort at home? N, but taking notice more after sister's CHF. O thinks 20-30 at rest .

Cough? N

Shortness of breath or difficulty breathing? Sounds raspy when anxious.

Syncope or collapse? N

Sudden onset lameness? N

Exercise intolerance? N- Normally low energy.

Current Medications Pertinent to CV System:

Medication: **B6**

Formulation: **B6**

Administration Frequency: **B6**

Need refills? N

Cardiac Physical Examination:

B6

Muscle condition:

- Normal
- Mild muscle loss
- Moderate cachexia
- Marked cachexia

Cardiovascular Physical Exam:

Murmur Grade:

- None
- I/VI
- II/VI
- III/VI
- IV/VI
- V/VI
- VI/VI

Murmur location/description:

Jugular vein:

- Bottom 1/3 of the neck
- Middle 1/3 of the neck
- 1/2 way up the neck
- Top 2/3 of the neck

Arterial pulses:

- Weak - obese and difficult to palpate
- Fair
- Good
- Strong
- Bounding
- Pulse deficits
- Pulsus paradoxus
- Other:

Arrhythmia:

- None
- Sinus arrhythmia
- Premature beats infrequent
- Bradycardia
- Tachycardia

Gallop:

- Yes
- Pronounced

- No
- Intermittent

Other:

Pulmonary assessments:

- Eupneic
- Mild dyspnea
- Marked dyspnea
- Normal BV sounds
- Pulmonary crackles
- Wheezes
- Upper airway stridor

Abdominal exam:

- Normal
- Hepatomegaly
- Abdominal distension mostly adipose tissue?
- Mild ascites
- Marked ascites

Problems:

Related dog with DCM
Has a high NT-proBNP

Differential Diagnoses: DCM vs other

Diagnostic plan:

- Echocardiogram
- Chemistry profile
- ECG
- Renal profile
- Blood pressure
- Dialysis profile
- Thoracic radiographs
- NT-proBNP
- Troponin I
- Other tests: Study bloodwork

Echocardiogram Findings:

General/2-D findings:

B6

B6

Doppler findings:

B6

Mitral inflow:

- Summated
- Normal
- Delayed relaxation
- Pseudonormal
- Restrictive

ECG findings:

B6

B6

Assessment and recommendations:

Findings are consistent with ARVC with concurrent LV dysfunction which is either related to ARVC or could have a component of diet-related cardiomyopathy. There was not enough arrhythmia seen today to clearly trigger antiarrhythmic therapy, but a 24 hour Holter monitor could be performed for a better assessment of arrhythmia burden, or Alivecor tracings could be evaluated serially.

B6

B6

B6

Final Diagnosis:

ARVC with LV dysfunction (possible component of diet associated cardiomyopathy)

Heart Failure Classification Score:

ISACHC Classification:

- | | |
|--|-------------------------------|
| <input type="checkbox"/> Ia | <input type="checkbox"/> IIIa |
| <input checked="" type="checkbox"/> Ib | <input type="checkbox"/> IIIb |
| <input type="checkbox"/> II | |

ACVIM Classification:

- | | |
|--|----------------------------|
| <input type="checkbox"/> A | <input type="checkbox"/> C |
| <input type="checkbox"/> B1 | <input type="checkbox"/> D |
| <input checked="" type="checkbox"/> B2 | |

M-Mode

IVSd	cm
LVIDd	cm
LVPWd	cm
IVSs	cm
LVIDs	cm
LVPWs	cm
EDV(Teich)	ml
ESV(Teich)	ml
EF(Teich)	%
%FS	%
SV(Teich)	ml
Ao Diam	cm
LA Diam	cm
LA/Ao	
Max LA	cm
TAPSE	cm

B6

M-Mode Normalized

IVSdN	(0.290 - 0.520) !
LVIDdN	(1.350 - 1.730)
LVPWdN	(0.330 - 0.530)
IVSsN	(0.430 - 0.710)
LVIDsN	(0.790 - 1.140)
LVPWsN	(0.530 - 0.780) !
Ao Diam N	(0.680 - 0.890) !
LA Diam N	(0.640 - 0.900) !

SALA	cm
Ao Diam	cm
SALA / Ao Diam	
IVSd	cm
LVIDd	cm
LVPWd	cm
EDV(Teich)	ml
IVSs	cm
LVIDs	cm
LVPWs	cm
ESV(Teich)	ml
EF(Teich)	%
%FS	%
SV(Teich)	ml
LV Major	cm
LV Minor	cm
Sphericity Index	
LVLd LAX	cm
LVAAd LAX	cm
LVEDV A-L LAX	ml
LVEDV MOD LAX	ml
LVLs LAX	cm
LVAAs LAX	cm
LVESV A-L LAX	ml
LVESV MOD LAX	ml
HR	BPM
EF A-L LAX	%
LVEF MOD LAX	%
SV A-L LAX	ml
SV MOD LAX	ml
CO A-L LAX	l/min
CO MOD LAX	l/min
<u>Doppler</u>	
MR Vmax	m/s
MR maxPG	mmHg
MV E Vel	m/s
MV DecT	ms
MV Dec Slope	m/s
MV A Vel	m/s
MV E/A Ratio	
E'	m/s
E/E'	
A'	m/s
S'	m/s
AV Vmax	m/s
AV maxPG	mmHg
PV Vmax	m/s
PV maxPG	mmHg
TR Vmax	m/s

B6

TR maxPG

B6

mmHg

Cummings
Veterinary Medical Center
AT TUFTS UNIVERSITY

Foster Hospital for Small Animals
55 Willard Street
North Grafton, MA 01536
Telephone (508) 839-5395
Fax (508) 839-7951
<http://vetmed.tufts.edu/>

B6

B6 Male (Neutered)
Canine English Bulldog
Brown/White
438275

2/12/2019

Dear **B6**

Thank you for referring **B6** with their pet **B6**

If you have any questions, or concerns, please contact us at 508-887-4988.

Thank you,

John Rush DVM, DACVIM (Cardiology), DACMECC

B6

Patient ID: B6

B6
Canine
years Old Female Golden Retriever
Cream

**Cardiology Appointment Report
DCM STUDY**

Date: B6

Attending Cardiologist:

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

Cardiology Resident:

B6

Cardiology Technician:

B6

Student: B6 V20

Presenting Complaint: DCM study recheck; o reports doing well at home, good energy, no other concerns.

Concurrent Diseases: None

General Medical History: On 1/2/19 was referred here by rDVM for elevated BNP B6, rDVM prompted to check b/c of grain-free diet. Echo in January showed mild systolic dysfunction w/mild LAE. Transitioned to new diet. CBC, chem, BNP WNL.

Diet and Supplements:

Purina sensitive stomach

Cardiovascular History:

Prior CHF diagnosis? N

Prior heart murmur? N

Prior ATE? N

Prior arrhythmia? N

Monitoring respiratory rate and effort at home? N

Cough? N

Shortness of breath or difficulty breathing? N

Syncope or collapse? N

Sudden onset lameness? N

Exercise intolerance? N

Current Medications Pertinent to CV System:

B6

Cardiac Physical Examination:

B6

Muscle condition:

- Normal
- Mild muscle loss
- Moderate cachexia
- Marked cachexia

Cardiovascular Physical Exam:

Murmur Grade:

- None
- I/VI
- II/VI
- III/VI
- IV/VI
- V/VI
- VI/VI

Murmur location/description:

Jugular vein:

- Bottom 1/3 of the neck
- Middle 1/3 of the neck
- 1/2 way up the neck
- Top 2/3 of the neck

Arterial pulses:

- Weak
- Fair
- Good
- Strong
- Bounding
- Pulse deficits
- Pulsus paradoxus
- Other:

Arrhythmia:

- None
- Sinus arrhythmia
- Premature beats
- Bradycardia
- Tachycardia

Gallop:

- Yes
- No
- Intermittent
- Pronounced
- Other:

Pulmonary assessments:

- Eupneic
- Pulmonary crackles

- Mild dyspnea
- Marked dyspnea
- Normal BV sounds

- Wheezes
- Upper airway stridor

Abdominal exam:

- Normal
- Hepatomegaly
- Abdominal distension
- Mild ascites
- Marked ascites

Problems:

Hx of asymptomatic heart disease

Differential Diagnoses:

Nutritional DCM

Diagnostic plan:

- Echocardiogram
- Chemistry profile
- ECG
- Renal profile
- Blood pressure
- Dialysis profile
- Thoracic radiographs
- NT-proBNP
- Troponin I
- Other tests:

Echocardiogram Findings:

B6

Mitral inflow:

- Summated
- Normal
- Delayed relaxation
- Pseudonormal
- Restrictive

ECG findings:

B6

Assessment and recommendations:

Stable systolic function compared to previous exams, despite mild increase in LV cavity size (r/o daily variation or interobserver variation).

B6

B6

Final Diagnosis:

Mild systolic dysfunction with mild LA enlargement- r/o early stage DCM vs. diet induced systolic dysfunction.

Heart Failure Classification Score:

ISACHC Classification:

- Ia
- Ib
- II
- IIIa
- IIIb

ACVIM Classification:

- A
- B1
- B2
- C
- D

M-Mode

IVSd	B6	cm
LVIDd		cm
LVPWd		cm
IVSs		cm
LVIDs		cm
LVPWs		cm
EDV(Teich)		ml
ESV(Teich)		ml
EF(Teich)		%
%FS		%
SV(Teich)		ml
Max LA		cm
Time		ms
HR		BPM
CO(Teich)		l/min
CI(Teich)		l/min/m ²
Ao Diam	cm	
LA Diam	cm	
LA/Ao		
TAPSE	cm	
EPSS	cm	

M-Mode Normalized

IVSdN	B6	(0.290 - 0.520)
LVIDdN		(1.350 - 1.730) !
LVPWdN		(0.330 - 0.530) !
IVSsN		(0.430 - 0.710) !
LVIDsN		(0.790 - 1.140) !
LVPWsN	(0.530 - 0.780)	

2D

IVSd	B6	cm
LVIDd		cm
LVPWd		cm
EDV(Teich)		ml

IVSs
LVIDs
LVPWs
BSV(Teich)
EF(Teich)
%FS
SV(Teich)
LV Major
LV Minor
Sphericity Index
LVld A4C
LVEDV MOD A4C
LVLS A4C
LVBSV MOD A4C
LVEF MOD A4C
SV MOD A4C

B6

cm
cm
cm
ml
%
%
ml
cm
cm

cm
ml
cm
ml
%
ml

Doppler
MV E Vel
MV DecT
MV Dec Slope
MV A Vel
MV E/A Ratio
E'
E/E'
A'
S'
IVRT
AV Vmax
AV maxPG
PV Vmax
PV maxPG
E'
A'

B6

m/s
ms
m/s
m/s

m/s

m/s
m/s
ms
m/s
mmHg
m/s
mmHg
m/s
m/s

Client: **B6**
 Veterinarian: **B6**
 Patient ID: **B6**
 Visit ID: **B6**

Patient: **B6**
 Species: Canine
 Breed: Great Dane
 Sex: Male (Neutered)
 Age: **B6** Years Old

Lab Results Report

Chemistry 21 (Cobas)		9/13/2018 11:43:20 AM	Accession ID: B6
Test	Results	Reference Range	Units
GLUCOSE	B6	67 - 135	mg/dL
UREA		8 - 30	mg/dL
CREATININE		0.6 - 2	mg/dL
PHOSPHORUS		2.6 - 7.2	mg/dL
CALCIUM2		9.4 - 11.3	mg/dL
T. PROTEIN		5.5 - 7.8	g/dL
ALBUMIN		2.8 - 4	g/dL
GLOBULINS		2.3 - 4.2	g/dL
A/G RATIO		0.7 - 1.6	
SODIUM		140 - 150	mEq/L
CHLORIDE		106 - 116	mEq/L
POTASSIUM		3.7 - 5.4	mEq/L
NA/K		29 - 40	
T BILIRUBIN		0.1 - 0.3	mg/dL
D.BILIRUBIN		0 - 0.1	mg/dL
I BILIRUBIN		0 - 0.2	mg/dL
ALK PHOS		12 - 127	U/L
ALT		14 - 86	U/L
AST		9 - 54	U/L
CHOLESTEROL		82 - 355	mg/dL
OSMOLALITY (CALCULATED)	291 - 315	mmol/L	

Discharge Instructions

Patient

Name: B6

Species: Canine

Black Male (Neutered) Great Dane

Birthdate: B6

Owner

Name: B6

Address: B6

Patient ID: B6

Attending Cardiologist:

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

Cardiology Resident:

B6

Cardiology Technician:

B6

Student: B6, V19

Admit Date: 9/12/2018 11:24:19 AM

Discharge Date: 9/14/2018

Diagnoses:

Dilated cardiomyopathy (DCM) with congestive heart failure.

Atrial fibrillation with ventricular arrhythmia

Case summary:

Thank you for bringing B6 to Tufts for treatment of his heart disease. B6 has been diagnosed with a primary heart muscle disease called dilated cardiomyopathy (DCM). This disease is more common in large and giant breed dogs and is characterized by thinning of the walls of the heart, reduced cardiac pump function, and enlargement of the upper chambers of the heart. Many dogs with DCM will also have significant arrhythmias which can be life-threatening and also require medical management. B6 has two abnormal heart rhythms right now that he is receiving medication for- atrial fibrillation and ventricular arrhythmias. The heart enlargement has now progressed to the point of congestive heart failure, meaning that fluid is backing up into the lungs or belly. Unfortunately this is a progressive disease and we cannot reverse the changes to the heart muscle, however we can use cardiac medications and some changes to the diet to make your dog comfortable and have him breathing easier.

Diagnostic test results and findings:

Echocardiogram findings: All chambers of the heart are enlarged. There is severe dysfunction of the heart's ability to contract. The mitral valve leaflets are not closing together well due to the dilation of the heart (they are being pulled apart as the heart increases in size). Moderate amount of pleural effusion (fluid around the lungs) and ascites (fluid in the abdomen).

ECG findings: The ECG showed atrial fibrillation with occasional ventricular arrhythmia. Atrial fibrillation is an abnormal heart rhythm. Once dogs develop atrial fibrillation it is extremely rare for them to regain their normal

heart rhythm. Our main goal now is to decrease the heart rate as much as possible since right now his heart rate is too high. The ventricular arrhythmia that he is having is malignant, meaning it can potentially lead to collapsing episodes and unfortunately even death. The amiodarone medication he is on will hopefully further control this ventricular rhythm as it further saturates the heart tissue as we keep dosing it. Labwork findings: His kidneys are tolerating the medications well right now. We will want to recheck these values soon.

Monitoring at home:

- We would like you to monitor your dog's breathing rate and effort at home, ideally during sleep or at a time of rest. The doses of drugs will be adjusted based on the breathing rate and effort.
- In general, most dogs with heart failure that is well controlled have a breathing rate at rest of less than 35 breaths per minute. In addition, the breathing effort, noted by the amount of belly wall motion used for each breath, is fairly minimal if heart failure is controlled.
- *An increase in breathing rate or effort will usually mean that you should give an extra dose* . If difficulty breathing is not improved by within 30-60 minutes after giving extra then we recommend that a recheck exam be scheduled and/or that your dog be evaluated by an emergency clinic.
- There are instructions for monitoring breathing, and a form to help keep track of breathing rate and drug doses, on the Tufts HeartSmart web site (<http://vet.tufts.edu/heartsmart/at-home-monitoring/>).
- We also want you to watch for weakness or collapse, a reduction in appetite, worsening cough, or distention of the belly as these findings indicate that we should do a recheck examination.
- If you have any concerns, please call or have your dog evaluated by a veterinarian. Our emergency clinic is open 24 hours/day.

Recommended Medications:

B6

Diet suggestions:

Dogs with heart failure accumulate more fluid in their body if they eat large amounts of sodium (salt). Sodium can be found in all foods, but some foods are lower in sodium than others. Many pet treats, people foods, and supplements used to give pills often have more sodium than is desirable - a sheet that has suggestions for low sodium treats can be found on the HeartSmart web site (<http://vet.tufts.edu/heartsmart/diet/>)

Your dog's usual diet may also have more sodium than recommended - we want him/her to continue to eat his/her normal diet for the first 7 to 14 days so we can make sure he is tolerating medications well, but after that time we would recommend slowly introducing one of the lower sodium diets on the HeartSmart list (25% of the new diet and 75% old diet for 2-3 days, then 50:50, etc.). We also want [B6] to eat a main stream, non grain-free diet from now on.

Exercise Recommendations:

For the first 7 to 10 days after starting medications for heart failure we recommend very limited activity. Leash walking only is ideal, and short walks to start. Once the heart failure is better controlled, then slightly longer walks are acceptable. However, if you find that [B6] is lagging behind or needs to stop on a walk then this was too long a walk and shorter walks are advised in the future. Repetitive or strenuous high energy activities (repetitive ball chasing, running fast off-leash, etc.) are generally not advised at this stage of heart failure.

Recheck Visits:

A recheck visit is recommended in 1-2 weeks after any medication adjustments are made. At this visit we will check your dog's breathing effort and heart function, check his ECG, and check for fluid around the lungs and in the belly. Please call or email to schedule this appointment with us. A recheck echocardiogram is recommended in 3-4 months.

Thank you for entrusting us with [B6] care. He is such a sweet boy! Please contact our Cardiology liaison at (508)-887-4696 or email us at cardiovet@tufts.edu for scheduling and non-emergent questions or concerns.

Please visit our HeartSmart website for more information
<http://vet.tufts.edu/heartsmart/>

Prescription Refill Disclaimer:

For the safety and well-being of our patients, your pet must have had an examination by one of our veterinarians within the past year in order to obtain prescription medications.

Ordering Food:

Please check with your primary veterinarian to purchase the recommended diet(s). If you wish to purchase your food from us, please call 7-10 days in advance (508-887-4629) to ensure the food is in stock. Alternatively, veterinary diets can be ordered from online retailers with a prescription/veterinary approval.

Clinical Trials:

Clinical trials are studies in which our veterinary doctors work with you and your pet to investigate a specific disease process or a promising new test or treatment. Please see our website: vet.tufts.edu/cvmc/clinical-studies

Case: [B6]

Owner: [B6]

Discharge Instructions

Client:
 Veterinarian:
 Patient ID:
 Visit ID:

B6

Patient: **B6**
 Species: Canine
 Breed: Great Dane
 Sex: Male (Neutered)
 Age: **B6** Years Old

Lab Results Report

Chemistry 21 (Cobas)		9/14/2018 12:28:20 PM	Accession ID: B6
Test	Results	Reference Range	Units
GLUCOSE	B6	67 - 135	mg/dL
UREA		8 - 30	mg/dL
CREATININE		0.6 - 2	mg/dL
PHOSPHORUS		2.6 - 7.2	mg/dL
CALCIUM2		9.4 - 11.3	mg/dL
T. PROTEIN		5.5 - 7.8	g/dL
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GLOBULINS		2.3 - 4.2	g/dL
A/G RATIO		0.7 - 1.6	
SODIUM		140 - 150	mEq/L
CHLORIDE		106 - 116	mEq/L
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I BILIRUBIN		0 - 0.2	mg/dL
ALK PHOS		12 - 127	U/L
ALT		14 - 86	U/L
AST		9 - 54	U/L
CHOLESTEROL		82 - 355	mg/dL
OSMOLALITY (CALCULATED)	291 - 315	mmol/L	

From: Palmer, Lee Anne </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=CF7C8BD53B6C45A39318A596ACEA7C53-LPALMER>
To: Rotstein, David; Jones, Jennifer L
Sent: 5/1/2018 1:38:39 PM
Subject: RE: DCM cases - proposed diet history

Thanks – this is a great dietary history. My only comments:

B5

Thanks for the opportunity to comment!

Lee Anne

From: Rotstein, David
Sent: Friday, April 27, 2018 9:00 PM
To: Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>
Subject: Fwd: DCM cases - proposed diet history

Lee Anne,

Thought you would be interested and could provide any comments/suggestions

From: Freeman, Lisa <Lisa.Freeman@tufts.edu>
Date: April 27, 2018 at 7:27:27 PM EDT
To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>, Darcy Adin <dbadin@ncsu.edu>, Joshua A Stern <jstern@ucdavis.edu>, Fries, Ryan C <rfries@illinois.edu> **B6**
B6
Cc: Rotstein, David <David.Rotstein@fda.hhs.gov>, Norris, Anne <Anne.Norris@fda.hhs.gov>, DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>, Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>
Subject: DCM cases - proposed diet history

Hi everyone

I'm attaching a proposed diet history form. I met with our cardiology group yesterday **B5**

B5

Please let me know if you have any comments –

B5

B5

Our group also discussed

B5

B5

Thanks
Lisa

Lisa M. Freeman, DVM, PhD, DACVN
Professor
Cummings School of Veterinary Medicine
Friedman School of Nutrition Science and Policy
Tufts Clinical and Translational Science Institute
Tufts University
www.petfoodology.org

From: Jones, Jennifer L [<mailto:Jennifer.Jones@fda.hhs.gov>]

Sent: Friday, April 20, 2018 3:50 PM

To: Darcy Adin <dbadin@ncsu.edu>; Freeman, Lisa <Lisa.Freeman@tufts.edu>; Joshua A Stern <jstern@ucdavis.edu>; Fries, Ryan C <rfries@illinois.edu>;

B6

B6

Cc: Rotstein, David <David.Rotstein@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>

Subject: RE: hold-call with Dr. Adin re: DCM cases

Importance: High

My apologies for the repeat email. After further internal discussion, in lieu of submitting Consumer Complaints, you can just email me a spreadsheet with the data.

Jennifer Jones, DVM
Veterinary Medical Officer
Tel: 240-402-5421



From: Jones, Jennifer L

Sent: Friday, April 20, 2018 1:19 PM

To: 'Darcy Adin' <dbadin@ncsu.edu>; Freeman, Lisa <lisa.freeman@tufts.edu>; Joshua A Stern <jstern@ucdavis.edu>; Fries, Ryan C <rfries@illinois.edu>;

B6

B6

Cc: Rotstein, David <David.Rotstein@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>

Subject: RE: hold-call with Dr. Adin re: DCM cases

Thank you again for joining us on the call and providing the information about your cases. To help us catalogue and potentially act on these adverse events, please file an official consumer complaint. Instructions on how to report a pet food report can be found at: <https://www.fda.gov/AnimalVeterinary/SafetyHealth/ReportaProblem/ucm182403.htm>. The complaint can be submitted through the Safety Reporting Portal: <https://www.safetyreporting.hhs.gov>. You can attach documents already created that compile your case data. We will review the data and may contact you for possible follow-up.

In the meantime, if you have a dog with DCM on a grain free diet that dies or is euthanized, please do not

dispose of the animal's body or any remaining food. Please submit an individual consumer complaint for that dog, and mention that you have been instructed to submit the report by Vet-LIRN. We will review the complaint for potential follow-up and may be able to offer a necropsy. I attached a copy of our Vet-LIRN network procedures that describe how we operate. I also included a version for animal owners.

Please email or call me with any questions. Thank you again for your time and expertise,
Jen

Jennifer Jones, DVM
Veterinary Medical Officer
Tel: 240-402-5421



From: Darcy Adin [mailto:dbadin@ncsu.edu]
Sent: Thursday, April 19, 2018 11:00 AM
To: Freeman, Lisa <lisa.freeman@tufts.edu>; Joshua A Stern <jsstern@ucdavis.edu>; Fries, Ryan C <rfries@illinois.edu> [B6]
Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>
Cc: Rotstein, David <David.Rotstein@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>
Subject: Fwd: hold-call with Dr. Adin re: DCM cases

Dear Dr. Jones,

We are all able to meet tomorrow, Friday April 20th at 11 am EST to discuss our clinical observations and concerns surrounding a potential relationship between grain-free canine diets and Dilated Cardiomyopathy.

Drs. [B6] Freeman, [B6] Fries and Stern - the call details are in the forwarded email below.

Just a brief introduction for the FDA group:

[B6]

Dr. Lisa Freeman is a Professor of Clinical Nutrition at Tufts University, College of Vet Med

[B6]

Dr. Ryan Fries is a Clinical Assistant Professor of Cardiology at Illinois, College of Vet Med

Dr. Josh Stern is an Associate Professor of Cardiology at UC Davis, College of Vet Med

Thank you everyone for making time in your schedule! I am looking forward to this.

Sincerely,
Darcy Adin

----- Forwarded message -----

From: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>

Date: Thu, Apr 19, 2018 at 7:16 AM

Subject: hold-call with Dr. Adin re: DCM cases

To: "Rotstein, David" <David.Rotstein@fda.hhs.gov>, "Norris, Anne" <Anne.Norris@fda.hhs.gov>, "DeLancey, Siobhan" <Siobhan.Delancey@fda.hhs.gov>, Darcy Adin <dbadin@ncsu.edu>

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--

Darcy B. Adin, DVM, DACVIM (Cardiology)

Clinical Assistant Professor of Cardiology

North Carolina State University

NC State Veterinary Hospital

1060 William Moore Drive

Raleigh, NC 27607

919-513-6032

From: Palmer, Lee Anne </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=CF7C8BD53B6C45A39318A596ACEA7C53-LPALMER>
To: Jones, Jennifer L; Rotstein, David; Carey, Lauren
Sent: 5/7/2018 6:07:39 PM
Subject: Ingredient listing by Atypical vs Typical Breed for Canine DCM.docx
Attachments: Ingredient listing by Atypical vs Typical Breed for Canine DCM.docx

From: Rotstein, David </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=0A3B17EBFCF14A6CB8E94F322906BADD-DROTSTEI>
To: Carey, Lauren; Jones, Jennifer L; Palmer, Lee Anne; Hartogensis, Martine; DeLancey, Siobhan
CC: Burkholder, William; Norris, Anne; Lovell, Randall A; Reimschuessel, Renate; Ceric, Olgica; Nemser, Sarah
Sent: 5/21/2018 11:41:45 AM
Subject: RE: 800.267-DCM and meetign with Cardiac Care for Pets

B4, B5

David Rotstein, DVM, MPVM, Dipl. ACVP
CVM Vet-LIRN Liaison
CVM OSC/DC/CERT
7519 Standish Place

B6



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From: Carey, Lauren
Sent: Monday, May 21, 2018 7:39 AM
To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>
Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; Lovell, Randall A <Randall.Lovell@fda.hhs.gov>; Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>
Subject: RE: 800.267-DCM and meetign with Cardiac Care for Pets

As an FYI, this formulation type is so popular Amazon jumped on board.

<https://www.petfoodindustry.com/articles/7209-amazon-wag-dog-foods-nutrient-content-analyzed-rated?eid=418335734&bid=2101343>

<https://www.amazon.com/WAG-Added-Grain-Lentil-Recipe/dp/B078VV67DT>

INGREDIENTS: BEEF, BEEF MEAL, LENTILS, PEA PROTEIN, PEAS, EGG PRODUCT, CHICKEN FAT (PRESERVED WITH MIXED TOCOPHEROLS), BREWERS YEAST, WILD BOAR, POTATO PROTEIN, DRIED PLAIN BEET PULP, FLAXSEED, NATURAL FLAVOR, SALT, CHOLINE CHLORIDE, DRIED CHICORY ROOT, YUCCA SCHIDIGERA EXTRACT, DRIED LACTOBACILLUS PLANTARUM FERMENTATION PRODUCT, DRIED BACILLUS SUBTILIS FERMENTATION PRODUCT, DRIED LACTOBACILLUS ACIDOPHILUS FERMENTATION PRODUCT, DRIED ENTEROCOCCUS FAECIUM FERMENTATION PRODUCT, DRIED BIFIDOBACTERIUM ANIMALIS FERMENTATION PRODUCT, VITAMIN E SUPPLEMENT, IRON PROTEINATE, ZINC PROTEINATE, COPPER PROTEINATE, FERROUS SULFATE, ZINC SULFATE, COPPER

SULFATE, POTASSIUM IODIDE, THIAMINE MONONITRATE (SOURCE OF VITAMIN B1), MANGANESE PROTEINATE, MANGANOUS OXIDE, ASCORBIC ACID (PRESERVATIVE), VITAMIN A SUPPLEMENT, BIOTIN, NIACIN, CALCIUM PANTOTHENATE, MANGANESE SULFATE, SODIUM SELENITE, PYRIDOXINE HYDROCHLORIDE (SOURCE OF VITAMIN B6), VITAMIN B12 SUPPLEMENT, RIBOFLAVIN (VITAMIN B2), VITAMIN D3 SUPPLEMENT, FOLIC ACID.

B4, B5

From: Jones, Jennifer L

Sent: Friday, May 18, 2018 3:31 PM

To: Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>

Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; Lovell, Randall A <Randall.Lovell@fda.hhs.gov>; Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>

Subject: RE: 800.267-DCM and meetign with Cardiac Care for Pets

Yes, you're correct Lee Anne.

B4

B5

Jennifer Jones, DVM
Veterinary Medical Officer
Tel: 240-402-5421



From: Palmer, Lee Anne
Sent: Friday, May 18, 2018 3:29 PM
To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>
Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; Lovell, Randall A <Randall.Lovell@fda.hhs.gov>; Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>
Subject: RE: 800.267-DCM and meetign with Cardiac Care for Pets

B4, B5

From: Jones, Jennifer L
Sent: Friday, May 18, 2018 3:24 PM
To: Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>
Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; Lovell, Randall A <Randall.Lovell@fda.hhs.gov>; Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>
Subject: RE: 800.267-DCM and meetign with Cardiac Care for Pets

I just got a call from Dr. Fascetti with UC Davis-She runs the amino acid laboratory and B5

B5

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B5

Jennifer Jones, DVM
Veterinary Medical Officer



From: Palmer, Lee Anne
Sent: Friday, May 18, 2018 3:10 PM
To: Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>
Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; Lovell, Randall A <Randall.Lovell@fda.hhs.gov>; Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>
Subject: RE: 800.267-DCM and meetign with Cardiac Care for Pets

In terms of # reported to us - I would look at (in terms of reports directly to FDA CVM) the top 2 primarily. Dave could do much better with contact info.

B5

There are a variety of others – among those reported to us, several have 1 report per brand, but all grain-free.

B4, B5

From: Hartogensis, Martine
Sent: Friday, May 18, 2018 2:53 PM
To: Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>
Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; Lovell, Randall A <Randall.Lovell@fda.hhs.gov>; Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>
Subject: RE: 800.267-DCM and meetign with Cardiac Care for Pets

Yes, thank you to everyone on the call.

Anne and I are working on the advisory. In meantime, I think we **B5**
B5 Dave, do you have that or any suggestions on how to find contact names/numbers?

Martie

From: Palmer, Lee Anne
Sent: Friday, May 18, 2018 2:09 PM
To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>
Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; Lovell, Randall A <Randall.Lovell@fda.hhs.gov>; Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>
Subject: RE: 800.267-DCM and meetign with Cardiac Care for Pets

Thanks,
suppose

B5

B5

I also cleaned up and did
this one out!

B5

hanks – hope we can figure

Lee Anne

From: Jones, Jennifer L

Sent: Friday, May 18, 2018 1:54 PM

To: Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>

Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; Lovell, Randall A <Randall.Lovell@fda.hhs.gov>; Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>

Subject: RE: 800.267-DCM and meetign with Cardiac Care for Pets

B5

Any other ideas or suggestions?

Jennifer Jones, DVM
Veterinary Medical Officer
Tel: 240-402-5421



From: Hartogensis, Martine

Sent: Friday, May 18, 2018 11:58 AM

To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>

Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; Lovell, Randall A <Randall.Lovell@fda.hhs.gov>; Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>

Subject: RE: 800.267-DCM and meetign with Cardiac Care for Pets

Thank you Jen! Sounds good and looking forward to the meeting.

Martine

From: Jones, Jennifer L

Sent: Friday, May 18, 2018 6:42 AM

To: Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>

Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>;

Norris, Anne <Anne.Norris@fda.hhs.gov>; Lovell, Randall A <Randall.Lovell@fda.hhs.gov>; Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>

Subject: RE: 800.267-DCM and meetign with Cardiac Care for Pets

B5

Jennifer Jones, DVM
Veterinary Medical Officer
Tel: 240-402-5421



From: Hartogensis, Martine

Sent: Thursday, May 17, 2018 7:52 PM

To: DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>

Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; Lovell, Randall A <Randall.Lovell@fda.hhs.gov>; Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>

Subject: RE: 800.267-DCM and meetign with Cardiac Care for Pets

Yes, excellent work! One question though...do we see

B5

B5

Thanks in advance!

Martine

From: DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>

Date: May 17, 2018 at 2:27:35 PM EDT

To: Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>, Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>, Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>, Rotstein, David <David.Rotstein@fda.hhs.gov>

Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>, Carey, Lauren <Lauren.Carey@fda.hhs.gov>, Norris, Anne <Anne.Norris@fda.hhs.gov>, Lovell, Randall A <Randall.Lovell@fda.hhs.gov>, Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>, Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>, Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>

Subject: RE: 800.267-DCM and meetign with Cardiac Care for Pets

B5

From: Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>

Date: May 17, 2018 at 2:14:48 PM EDT

To: DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>, Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>, Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>, Rotstein, David <David.Rotstein@fda.hhs.gov>

Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>, Carey, Lauren <Lauren.Carey@fda.hhs.gov>, Norris, Anne <Anne.Norris@fda.hhs.gov>, Lovell, Randall A <Randall.Lovell@fda.hhs.gov>, Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>, Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>, Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>

Subject: RE: 800.267-DCM and meetign with Cardiac Care for Pets

Hah! Perfect timing! We're all heading down the same path...

From: DeLancey, Siobhan

Sent: Thursday, May 17, 2018 2:13 PM

To: Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>

Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; Lovell, Randall A <Randall.Lovell@fda.hhs.gov>; Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>

Subject: RE: 800.267-DCM and meetign with Cardiac Care for Pets

As luck would have it, I'm at CE today listening to B6 talk about nutrition and cardiomyopathies. See attached slide.

From: Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>

Date: May 17, 2018 at 2:06:04 PM EDT

To: Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>, Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>, Rotstein, David <David.Rotstein@fda.hhs.gov>

Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>, Carey, Lauren <Lauren.Carey@fda.hhs.gov>, Norris, Anne <Anne.Norris@fda.hhs.gov>, DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>, Lovell, Randall A <Randall.Lovell@fda.hhs.gov>, Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>, Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>, Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>

Subject: RE: 800.267-DCM and meetign with Cardiac Care for Pets

Hi there – is the slide set for tomorrow's meeting? Great work!

B5

B5

B5

B5

From: Hartogensis, Martine

Sent: Thursday, May 17, 2018 11:59 AM

To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>

Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>; Lovell, Randall A <Randall.Lovell@fda.hhs.gov>; Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>

Subject: RE: 800.267-DCM and meetign with Cardiac Care for Pets

Excellent work Jen!!

Just a few questions
DCM?

B5

One other quest
issue?

B5

Martine

From: Jones, Jennifer L

Sent: Thursday, May 17, 2018 11:29 AM

To: Rotstein, David <David.Rotstein@fda.hhs.gov>; Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>

Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>; Lovell, Randall A <Randall.Lovell@fda.hhs.gov>; Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>
Subject: RE: 800.267-DCM and meetign with Cardiac Care for Pets

We

B5

B5

Please see the PPT for the rationale/summary

Jennifer Jones, DVM
Veterinary Medical Officer
Tel: 240-402-5421



From: Rotstein, David
Sent: Monday, May 14, 2018 10:22 AM
To: Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>
Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>; Lovell, Randall A <Randall.Lovell@fda.hhs.gov>
Subject: RE: DCM and meetign with Cardiac Care for Pets

B5

From: Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>
Date: May 14, 2018 at 9:09:17 AM EDT
To: Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>, Rotstein, David <David.Rotstein@fda.hhs.gov>, Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>
Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>, Carey, Lauren <Lauren.Carey@fda.hhs.gov>, Norris, Anne <Anne.Norris@fda.hhs.gov>, DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>, Lovell, Randall A <Randall.Lovell@fda.hhs.gov>
Subject: RE: DCM and meetign with Cardiac Care for Pets

B5

Martine

From: Palmer, Lee Anne
Sent: Friday, May 11, 2018 4:30 PM
To: Rotstein, David <David.Rotstein@fda.hhs.gov>; Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>
Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>;

Norris, Anne <Anne.Norris@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>; Lovell, Randall A <Randall.Lovell@fda.hhs.gov>

Subject: RE: DCM and meetign with Cardiac Care for Pets

From what I've read, it can be a

B5

B5

From: Rotstein, David

Sent: Friday, May 11, 2018 4:14 PM

To: Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>

Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>; Lovell, Randall A <Randall.Lovell@fda.hhs.gov>

Subject: RE: DCM and meetign with Cardiac Care for Pets

Lee Anne,

This is fantastic

B5

B5

B5

B5

From: Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>

Date: May 11, 2018 at 4:06:05 PM EDT

To: Rotstein, David <David.Rotstein@fda.hhs.gov>, Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>, Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>

Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>, Carey, Lauren <Lauren.Carey@fda.hhs.gov>, Norris, Anne <Anne.Norris@fda.hhs.gov>, DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>, Lovell, Randall A <Randall.Lovell@fda.hhs.gov>

Subject: RE: DCM and meetign with Cardiac Care for Pets

Hi there -

B5

B5

B5

I'll final this up next week, have to get to other things yet today. Have a great weekend! J Lee Anne

B5

From: Rotstein, David
Sent: Wednesday, May 9, 2018 4:13 PM
To: Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>
Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>
Subject: RE: DCM and meetign with Cardiac Care for Pets

Sounds very intriguing!!!

From: Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>
Date: May 9, 2018 at 4:09:18 PM EDT
To: Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>, Rotstein, David <David.Rotstein@fda.hhs.gov>, Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>
Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>, Carey, Lauren <Lauren.Carey@fda.hhs.gov>, Norris, Anne <Anne.Norris@fda.hhs.gov>, DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>
Subject: RE: DCM and meetign with Cardiac Care for Pets

B5

B5 I want to confirm it, then will send it along – could be Friday before I get this in shape to send... not to leave you hanging, but wanted to be more sure. Definitely, not done today as I'd thought. Thanks!

From: Hartogensis, Martine
Sent: Wednesday, May 9, 2018 2:17 PM

To: Rotstein, David <David.Rotstein@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>
Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>
Subject: RE: DCM and meetign with Cardiac Care for Pets

Awesome, thank you Dave!

Martine

From: Rotstein, David
Sent: Wednesday, May 09, 2018 2:06 PM
To: Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>
Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>
Subject: RE: DCM and meetign with Cardiac Care for Pets

Good Afternoon,

I spoke with B6 Cardiac Care for Pets. He is going to look into times/dates with the cardiologists there and we can set the meeting up from that point.

Just some basic information:

B5

As a side note, there is a facebook page dedicated to this issue:

<https://www.facebook.com/groups/1952593284998859/about/>

David Rotstein, DVM, MPVM, Dipl. ACVP
CVM Vet-LIRN Liaison
CVM OSC/DC/CERT
7519 Standish Place
B5



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From: Hartogensis, Martine
Sent: Tuesday, May 08, 2018 10:58 AM
To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>

Subject: RE: DCM

Thank you Jen and Dave! Very interesting and sounds like you all are on it!

B6

B6

Keep us posted!

Thanks again!

Martine

Hi Martine,

B5

I'm happy to share more info as needed.

Jen

Jennifer Jones, DVM
Veterinary Medical Officer
Tel: 240-402-5421



From: Rotstein, David

Sent: Tuesday, May 08, 2018 9:45 AM

To: Hartogenesis, Martine <Martine.Hartogenesis@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>

Subject: RE: DCM

Martine,

B5

B5

Looping in Jen.

Thanks for the update!

dave

David Rotstein, DVM, MPVM, Dipl. ACVP
CVM Vet-LIRN Liaison
CVM OSC/DC/CERT
7519 Standish Place

B6



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From: Hartogensis, Martine
Sent: Tuesday, May 08, 2018 9:00 AM
To: Rotstein, David <David.Rotstein@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>
Subject: RE: DCM

B5

Martine

From: Rotstein, David
Sent: Monday, May 07, 2018 1:13 PM
To: Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>
Subject: Re: DCM

Martine

Lee Anne will likely discuss at

B5

B5

Vet-LIRN is looking into

B5

B5

There's a way to go on this moving forward.

Dave

From: Hartogenesis, Martine <Martine.Hartogenesis@fda.hhs.gov>

Date: May 7, 2018 at 1:03:13 PM EDT

To: Rotstein, David <David.Rotstein@fda.hhs.gov>

Subject: DCM

Hi Dave!

Do you have any more details on the DCM and grain free diet issue?

Martine

From: Hartogenesis, Martine </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=02DF91D554D34B948FC58433D0E42073-MHARTOGE>
To: Palmer, Lee Anne; Jones, Jennifer L; DeLancey, Siobhan; Rotstein, David
CC: Burkholder, William; Carey, Lauren; Norris, Anne; Lovell, Randall A; Reimschuessel, Renate; Ceric, Olgica; Nemser, Sarah
Sent: 5/18/2018 7:13:53 PM
Subject: RE: 800.267-DCM and meetign with Cardiac Care for Pets

B4, B5

Martine

From: Palmer, Lee Anne
Sent: Friday, May 18, 2018 3:10 PM
To: Hartogenesis, Martine <Martine.Hartogenesis@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>
Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; Lovell, Randall A <Randall.Lovell@fda.hhs.gov>; Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>
Subject: RE: 800.267-DCM and meetign with Cardiac Care for Pets

In terms of # reported to us - I would look at (in terms of reports directly to FDA CVM) the top 2 primarily. Dave could do much better with contact info.

B4, B5

From: Hartogenesis, Martine
Sent: Friday, May 18, 2018 2:53 PM
To: Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>
Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; Lovell, Randall A <Randall.Lovell@fda.hhs.gov>; Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>
Subject: RE: 800.267-DCM and meetign with Cardiac Care for Pets

Yes, thank you to everyone on the call.

B5

Martie

From: Palmer, Lee Anne

Sent: Friday, May 18, 2018 2:09 PM

To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Hartogensis, Martine

<Martine.Hartogensis@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>

Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>;

Norris, Anne <Anne.Norris@fda.hhs.gov>; Lovell, Randall A <Randall.Lovell@fda.hhs.gov>; Reimschuessel,

Renate <Renate.Reimschuessel@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah

<Sarah.Nemser@fda.hhs.gov>

Subject: RE: 800.267-DCM and meetign with Cardiac Care for Pets

B5

Lee Anne

From: Jones, Jennifer L

Sent: Friday, May 18, 2018 1:54 PM

To: Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>; DeLancey, Siobhan

<Siobhan.Delancey@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Rotstein, David

<David.Rotstein@fda.hhs.gov>

Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>;

Norris, Anne <Anne.Norris@fda.hhs.gov>; Lovell, Randall A <Randall.Lovell@fda.hhs.gov>; Reimschuessel,

Renate <Renate.Reimschuessel@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah

<Sarah.Nemser@fda.hhs.gov>

Subject: RE: 800.267-DCM and meetign with Cardiac Care for Pets

B5

Any other ideas or suggestions?

Jennifer Jones, DVM

Veterinary Medical Officer

Tel: 240-402-5421



From: Hartogensis, Martine

Sent: Friday, May 18, 2018 11:58 AM

To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>;

Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>

Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>;

Norris, Anne <Anne.Norris@fda.hhs.gov>; Lovell, Randall A <Randall.Lovell@fda.hhs.gov>; Reimschuessel,

Renate <Renate.Reimschuessel@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah

<Sarah.Nemser@fda.hhs.gov>

Subject: RE: 800.267-DCM and meetign with Cardiac Care for Pets

Thank you Jen! Sounds good and looking forward to the meeting.

Martine

From: Jones, Jennifer L
Sent: Friday, May 18, 2018 6:42 AM
To: Hartogenesis, Martine <Martine.Hartogenesis@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>
Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; Lovell, Randall A <Randall.Lovell@fda.hhs.gov>; Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>
Subject: RE: 800.267-DCM and meetign with Cardiac Care for Pets

CVCA is not a part of Vet-LIRN.

B5

B5

Jennifer Jones, DVM
Veterinary Medical Officer
Tel: 240-402-5421



From: Hartogenesis, Martine
Sent: Thursday, May 17, 2018 7:52 PM
To: DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>
Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; Lovell, Randall A <Randall.Lovell@fda.hhs.gov>; Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>
Subject: RE: 800.267-DCM and meetign with Cardiac Care for Pets

Yes, excellent work! One question though...do we see

B5

with CVCA? Are they part of VET-LIRN?

Thanks in advance!

Martine

From: DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>
Date: May 17, 2018 at 2:27:35 PM EDT
To: Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Hartogenesis, Martine <Martine.Hartogenesis@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>
Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; Lovell, Randall A <Randall.Lovell@fda.hhs.gov>; Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah

<Sarah.Nemser@fda.hhs.gov>

Subject: RE: 800.267-DCM and meetign with Cardiac Care for Pets

B5

From: Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>

Date: May 17, 2018 at 2:14:48 PM EDT

To: DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>, Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>, Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>, Rotstein, David <David.Rotstein@fda.hhs.gov>

Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>, Carey, Lauren <Lauren.Carey@fda.hhs.gov>, Norris, Anne <Anne.Norris@fda.hhs.gov>, Lovell, Randall A <Randall.Lovell@fda.hhs.gov>, Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>, Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>, Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>

Subject: RE: 800.267-DCM and meetign with Cardiac Care for Pets

Hah! Perfect timing! We're all heading down the same path...

From: DeLancey, Siobhan

Sent: Thursday, May 17, 2018 2:13 PM

To: Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>

Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; Lovell, Randall A <Randall.Lovell@fda.hhs.gov>; Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>

Subject: RE: 800.267-DCM and meetign with Cardiac Care for Pets

As luck would have it, I'm at CE today listening to **B6** talk about nutrition and cardiomyopathies. See attached slide.

From: Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>

Date: May 17, 2018 at 2:06:04 PM EDT

To: Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>

Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>; Lovell, Randall A <Randall.Lovell@fda.hhs.gov>; Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>

Subject: RE: 800.267-DCM and meetign with Cardiac Care for Pets

Hi there – is the slide set for tomorrow's meeting? Great work!

B5

B5

B5

B5

B5

From: Hartogensis, Martine

Sent: Thursday, May 17, 2018 11:59 AM

To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>

Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>; Lovell, Randall A <Randall.Lovell@fda.hhs.gov>; Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>

Subject: RE: 800.267-DCM and meetign with Cardiac Care for Pets

Excellent work Jen!!

Just a few questions. On slide 6 (or the spreadsheet);

B5

DCM?

One other question –
issue?

B5

Martine

From: Jones, Jennifer L

Sent: Thursday, May 17, 2018 11:29 AM

To: Rotstein, David <David.Rotstein@fda.hhs.gov>; Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>

Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>; Lovell, Randall A <Randall.Lovell@fda.hhs.gov>; Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>

Subject: RE: 800.267-DCM and meetign with Cardiac Care for Pets

B5

Please see the PPT for the rationale/summary

Jennifer Jones, DVM
Veterinary Medical Officer
Tel: 240-402-5421



From: Rotstein, David

Sent: Monday, May 14, 2018 10:22 AM

To: Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>

Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>; Lovell, Randall A <Randall.Lovell@fda.hhs.gov>

Subject: RE: DCM and meetign with Cardiac Care for Pets

I do not know

B5

From: Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>

Date: May 14, 2018 at 9:09:17 AM EDT

To: Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>

Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>; Lovell, Randall A <Randall.Lovell@fda.hhs.gov>

Subject: RE: DCM and meetign with Cardiac Care for Pets

This is very interesting. [REDACTED] Dave, do you have any idea about [REDACTED]

B5

B5

Martine

From: Palmer, Lee Anne
Sent: Friday, May 11, 2018 4:30 PM
To: Rotstein, David <David.Rotstein@fda.hhs.gov>; Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>
Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>; Lovell, Randall A <Randall.Lovell@fda.hhs.gov>
Subject: RE: DCM and meetign with Cardiac Care for Pets

From what I've read, it can be

B

From: Rotstein, David
Sent: Friday, May 11, 2018 4:14 PM
To: Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>
Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>; Lovell, Randall A <Randall.Lovell@fda.hhs.gov>
Subject: RE: DCM and meetign with Cardiac Care for Pets

Lee Anne,

This is fantastic. [REDACTED]

B5

B5

B5

From: Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>
Date: May 11, 2018 at 4:06:05 PM EDT
To: Rotstein, David <David.Rotstein@fda.hhs.gov>; Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>
Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>; Lovell, Randall A <Randall.Lovell@fda.hhs.gov>

Subject: RE: DCM and meetign with Cardiac Care for Pets

Hi there –

B5

B5

I'll final this up next week, have to get to other things yet today. Have a great weekend! J Lee Anne

B5

From: Rotstein, David

Sent: Wednesday, May 9, 2018 4:13 PM

To: Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Hartogensis, Martine

<Martine.Hartogensis@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>

Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>;

Norris, Anne <Anne.Norris@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>

Subject: RE: DCM and meetign with Cardiac Care for Pets

Sounds very intriguing!!!

From: Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>

Date: May 9, 2018 at 4:09:18 PM EDT

To: Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>;
Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>

Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>, Carey, Lauren <Lauren.Carey@fda.hhs.gov>, Norris, Anne <Anne.Norris@fda.hhs.gov>, DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>
Subject: RE: DCM and meetign with Cardiac Care for Pets

B5

B5 I want to confirm it, I will send it on Friday before this is a tape to send... not to leave you hanging, but wanted to be more sure. Definitely, not done today as I'd thought. Thanks!

From: Hartogensis, Martine
Sent: Wednesday, May 9, 2018 2:17 PM
To: Rotstein, David <David.Rotstein@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>
Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>
Subject: RE: DCM and meetign with Cardiac Care for Pets

Awesome, thank you Dave!

Martine

From: Rotstein, David
Sent: Wednesday, May 09, 2018 2:06 PM
To: Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>
Cc: Burkholder, William <William.Burkholder@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>; DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>
Subject: RE: DCM and meetign with Cardiac Care for Pets

Good Afternoon,

I spoke with **B6** Cardiac Care for Pets. He is going to look into times/dates with the cardiologists. There and we can wet the meeting up from that point

Just some basic information:

B5

As a side note, there is a facebook page dedicated to this issue:

<https://www.facebook.com/groups/1952593284998859/about/>

David Rotstein, DVM, MPVM, Dipl. ACVP
CVM Vet-LIRN Liaison
CVM OSC/DC/CERT
7519 Standish Place



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From: Hartogenesis, Martine

Sent: Tuesday, May 08, 2018 10:58 AM

To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>

Subject: RE: DCM

Thank you Jen and Dave! Very interesting and sounds like you all are on it!

B6

B6

Keep us posted!

Thanks again!

Martine

Hi Martine,

B5

I'm happy to share more info as needed.

Jen

Jennifer Jones, DVM
Veterinary Medical Officer
Tel: 240-402-5421



From: Rotstein, David

Sent: Tuesday, May 08, 2018 9:45 AM

To: Hartogenesis, Martine <Martine.Hartogenesis@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>

Subject: RE: DCM

Martine,

B5

Looping in Jen.

Thanks for the update!

dave

David Rotstein, DVM, MPVM, Dipl. ACVP
CVM Vet-LIRN Liaison
CVM OSC/DC/CERT
7519 Standish Place

B6



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From: Hartogenesis, Martine

Sent: Tuesday, May 08, 2018 9:00 AM

To: Rotstein, David <David.Rotstein@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>

Subject: RE: DCM

B5

Martine

From: Rotstein, David

Sent: Monday, May 07, 2018 1:13 PM

To: Hartogenesis, Martine <Martine.Hartogenesis@fda.hhs.gov>

Subject: Re: DCM

Martine

Lee Anne will likely discuss at [REDACTED] **B5** But it does look like there is a relationship between the increased DCM reports and grain free diets.

Vet-LIRN is looking into [REDACTED] **B5**
[REDACTED] **B5**

There's a way to go on this moving forward.

Dave

From: Hartogenesis, Martine <Martine.Hartogenesis@fda.hhs.gov>
Date: May 7, 2018 at 1:03:13 PM EDT
To: Rotstein, David <David.Rotstein@fda.hhs.gov>
Subject: DCM

Hi Dave!

Do you have any more details on the DCM and grain free diet issue?

Martine

From: Jones, Jennifer L </o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0f6ca12eaa9348959a4cbb1e829af244-Jennifer.Jo>
To: 'Andrea Fascetti'
Sent: 8/17/2018 2:48:55 PM
Subject: [REDACTED] **B5**

Hi Andrea,

I had a quick question. I'm trying to order the [REDACTED] **B5** but does it matter [REDACTED] **B5**? I referenced the [REDACTED] **B5** paper you sent but couldn't find any specifics of the chemical formula.

I hope you and your family are doing well, including your dog after the quarantine period J

Thanks again and take care,

Jen

Jennifer L. A. Jones, DVM

Veterinary Medical Officer
U.S. Food & Drug Administration
Center for Veterinary Medicine
Office of Research
Veterinary Laboratory Investigation and Response Network (Vet-LIRN)
8401 Muirkirk Road, G704
Laurel, Maryland 20708
new tel: 240-402-5421
fax: 301-210-4685
e-mail: jennifer.jones@fda.hhs.gov
Web: <http://www.fda.gov/AnimalVeterinary/ScienceResearch/ucm247334.htm>



From: Jones, Jennifer L </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=0F6CA12EAA9348959A4CBB1E829AF244-JENNIFER.JO>
To: [REDACTED] B6
Sent: 7/18/2019 11:11:54 AM
Subject: RE: [REDACTED] B6 FDA-CVCA Study for Dilated Cardiomyopathy
Importance: High

Good morning Mr. [REDACTED] B6

Are you interested in speaking with me about [REDACTED] B6 case? Please see my previous email below.

If so, please send me your availability for a 30-minute phone call on the following days:

- Tuesday July 23: 10 am to 12 noon eastern, or 1 to 3 pm
- Wednesday July 24: 6:30 am to 11 am eastern
- Thursday July 25: 6:30 am to 3 pm eastern
- Friday July 26: 6:30 am to 11:30 am eastern.

If you are unwilling to perform the interview, please let me know. I can then remove you from the interview list.

Thank you,

Dr. Jones

Jennifer Jones, DVM
Veterinary Medical Officer
Tel: 240-402-5421



From: Jones, Jennifer L
Sent: Friday, July 05, 2019 12:52 PM
To: [REDACTED] B6
Subject: [REDACTED] B6 FDA-CVCA Study for Dilated Cardiomyopathy
Importance: High

Good afternoon [REDACTED] B6

We have been working with CVCA to better understand Dilated Cardiomyopathy in dogs that ate pet foods labelled "grain free" and contain higher amounts of legumes and/or potato products. As part of that investigation, we would like to ask you some questions about [REDACTED] B6's past and current diet and environmental exposures.

The phone interview lasts approximately 30 minutes. Please send me 3 times when you would be available to speak between 6:30 am and 3 pm eastern time the following days:

- 7/11
- 7/12
- 7/15
- 7/16
- 7/17
- 7/18

I attached a copy of our network procedures. They describe how owners help with our case investigations.

Thank you kindly,

Dr. Jones

Jennifer L. A. Jones, DVM

Veterinary Medical Officer
U.S. Food & Drug Administration
Center for Veterinary Medicine
Office of Research
Veterinary Laboratory Investigation and Response Network (Vet-LIRN)
8401 Muirkirk Road, G704
Laurel, Maryland 20708

new tel: 240-402-5421

fax: 301-210-4685

e-mail: jennifer.jones@fda.hhs.gov

Web: <http://www.fda.gov/AnimalVeterinary/ScienceResearch/ucm247334.htm>



From: Jones, Jennifer L </o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0f6ca12eaa9348959a4cbb1e829af244-Jennifer.Jo>
To: [REDACTED] B6 Andrea Fascetti
CC: Guag, Jake
Sent: 4/2/2019 11:19:19 AM
Subject: RE: Heads up: Vet-LIRN (FDA) shipped 800.267 samples

Received. Thank you, [REDACTED] B6

Jennifer Jones, DVM
Veterinary Medical Officer
Tel: 240-402-5421



From: [REDACTED] B6
Sent: Monday, April 01, 2019 8:06 PM
To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Andrea Fascetti <ajfascetti@ucdavis.edu>
Cc: Guag, Jake <Jake.Guag@fda.hhs.gov>
Subject: Re: Heads up: Vet-LIRN (FDA) shipped 800.267 samples

Hi Dr. Jones,

Attached please find the corrected data file.

Kind Regards,

[REDACTED] B6

From: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>
Sent: Monday, April 1, 2019 4:30 AM
To: Andrea Fascetti; [REDACTED] B6
Cc: Guag, Jake
Subject: RE: Heads up: Vet-LIRN (FDA) shipped 800.267 samples

Good morning Andrea and [REDACTED] B6

I was reviewing the results and needed some clarification of the results for 2 cases. The results you sent show plasma amino acid values for cv-09 but not cv-14. However, I did not send any plasma for cv-09. I did send plasma for cv-14 (attached inventory sheet). Can you please clarify which set of plasma values belong to cv-14? Thank you in advance and have a wonderful week,
Jen

Jennifer Jones, DVM
Veterinary Medical Officer
Tel: 240-402-5421



From: Andrea Fascetti <ajfascetti@ucdavis.edu>
Sent: Saturday, March 23, 2019 1:30 PM
To: [REDACTED] B6
Cc: Guag, Jake <Jake.Guag@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>
Subject: Re: Heads up: Vet-LIRN (FDA) shipped 800.267 samples

Hello Jen and Jake- Please see attached file with your results. Thanks for the heads-up on the species. We have to know in case someone in the lab comes in contact with the blood (especially through a cut). Our occupational health and safety folks then have us file a report and follow up on those cases to ensure vaccination status etc.

We will bill according to your comments below.

Have a nice weekend.

Andrea

On Mar 21, 2019, at 10:51 AM, [REDACTED] B6 [REDACTED]@ucdavis.edu> wrote:

Hi Jake,

May you help to confirm the samples are for dogs or cats? I could not find the information

Thanks,

[REDACTED] B6 [REDACTED]

From: Guag, Jake <Jake.Guag@fda.hhs.gov>
Sent: Tuesday, March 12, 2019 8:53 AM
To: [REDACTED] B6 [REDACTED]
Cc: Jones, Jennifer L
Subject: Heads up: Vet-LIRN (FDA) shipped 800.267 samples

Hi [REDACTED] B6 [REDACTED]

Hope you are well. We shipped 800.267 samples on dry ice to you.

Box#1 has urine samples its tracking number is 1ZA4420T0194520315 with UPS.

Box#2 has whole blood and serum samples and its tracking number is 1ZA4420T0192121929 with UPS. Both boxes are expected to arrive your location tomorrow (Mar. 13th, 2019)

Please charge the urine sample analysis under AA contract.

Please provide invoice for the blood and serum analysis.

Thank you

Jake

Jake Guag, MPH, CPH
Biologist (FDA/CVM/OR/Vet-LIRN)
8401 Muirkirk Road
Laurel, Maryland 20708
Email: jake.guag@fda.hhs.gov
Tel: 240-402-0917

From: Jones, Jennifer L </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=0F6CA12EAA9348959A4CBB1E829AF244-JENNIFER.JO>
To: [REDACTED] B6
CC: Andrea Fascetti
Sent: 8/20/2019 11:44:03 AM
Subject: Question about results

Good morning [REDACTED] B6 and Andrea,
I had two quick general questions about the plasma and urine amino acid results.

[REDACTED] B5

Thank you in advance,
Jen

Jennifer L. A. Jones, DVM

Veterinary Medical Officer
U.S. Food & Drug Administration
Center for Veterinary Medicine
Office of Research
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e-mail: jennifer.jones@fda.hhs.gov
Web: <http://www.fda.gov/AnimalVeterinary/ScienceResearch/ucm247334.htm>

 **U.S. FOOD & DRUG**
ADMINISTRATION



From: Guag, Jake </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=E13AD3C7A7C5484C80E1D9CF9D1A15DE-JGUAG>
To: [REDACTED] B6
Sent: 6/27/2019 4:48:27 PM
Subject: RE: Fw: Heads up: Vet-LIRN (FDA) shipped 800.267-CV-R3 samples

Hi [REDACTED] B6

Thanks. You are correct. I forgot to update the CV-10 samples.

[REDACTED] B6

Could you please provide me when we can expect to get results?

Thanks

From: [REDACTED] B6 <[REDACTED]@ucdavis.edu>
Sent: Thursday, June 27, 2019 12:41 PM
To: [REDACTED] B6 <Guag, Jake <Jake.Guag@fda.hhs.gov>
Subject: Re: Fw: Heads up: Vet-LIRN (FDA) shipped 800.267-CV-R3 samples

Hello Jake-

Attached please find the completed inventory form. The only thing of note is there were 2 vials of cv-10 plasma, otherwise everything was in order.

Kind regards-

[REDACTED] B6

On Thu, Jun 27, 2019 at 9:26 AM [REDACTED] B6 <[REDACTED]@ucdavis.edu> wrote:

Hi [REDACTED] B6

Could you fill their sample inventory forms and email a PDF to Jake?

Thanks,

[REDACTED] B6

From: Guag, Jake <Jake.Guag@fda.hhs.gov>
Sent: Thursday, June 27, 2019 9:21 AM
To: [REDACTED] B6
Subject: RE: Heads up: Vet-LIRN (FDA) shipped 800.267-CV-R3 samples

Hi [REDACTED] B6

Could you please provide me filled out sample inventory forms?

Thanks
Jake

From: [REDACTED] <[REDACTED]@ucdavis.edu>
Sent: Tuesday, June 25, 2019 1:16 PM
To: Guag, Jake <Jake.Guag@fda.hhs.gov>
Cc: Andrea Fascetti <ajfascetti@ucdavis.edu>; [REDACTED] <[REDACTED]@ucdavis.edu>
Subject: Re: Heads up: Vet-LIRN (FDA) shipped 800.267-CV-R3 samples

Hi Jake,

Thanks for the notice. I will Let Dr. Fascetti know your plan. I am not in charge of the billing issues.

Kind Regards,

[REDACTED]

From: Guag, Jake <Jake.Guag@fda.hhs.gov>
Sent: Tuesday, June 25, 2019 9:17 AM
To: [REDACTED]
Cc: Jones, Jennifer L
Subject: Heads up: Vet-LIRN (FDA) shipped 800.267-CV-R3 samples

Hi [REDACTED]

I shipped 800.267 R3 samples on dry ice to your place this morning. R3 Urine samples are in Box#1, and R3 whole blood and plasma samples are in Box #2.

Both boxes will be arrive tomorrow (Jun 26, 2019), and their tracking numbers are [REDACTED] (Box#1) and [REDACTED] (Box#2) with UPS.

Inside you will find sample an inventory sheet in each box. Please fill out and provide to me (Scan or Fax).

[REDACTED]

Thanks
Jake

Jake Guag, MPH, CPH
Biologist (FDA/CVM/OR/Vet-LIRN)
8401 Muirkirk Road
Laurel, Maryland 20708
Email: jake.guag@fda.hhs.gov
Tel: 240-402-0917

From: Andrea Fascetti <ajfascetti@ucdavis.edu>
To: Jones, Jennifer L
Sent: 9/18/2018 12:16:47 PM
Subject: Re: control dog Taurine-urine

Hi Jen - Here is [B6] email address:

[B6]

And Josh:

jstern@ucdavis.edu

I hope this helps.

Andrea

On Sep 18, 2018, at 1:23 PM, Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov> wrote:

Good morning Andrea,

I got your message about the collaboration with Joshua Stern and [B6]. We will need to get some documentation first, but otherwise, we'd be happy to share the control urine taurine data. I'm checking to see what agreements we need. Can you please provide [B6] email? After I get the documents, I can send them to the group for signature, and then we can share the data.

Thank you for the collaborative opportunity!

[B6]

Take care,
Jen

Jennifer L. A. Jones, DVM

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Web: <http://www.fda.gov/AnimalVeterinary/ScienceResearch/ucm247334.htm>
<image001.png> <image002.png>

From: Jones, Jennifer L </o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0f6ca12eaa9348959a4cbb1e829af244-Jennifer.Jo>
To: Peloquin, Sarah
Sent: 9/18/2018 1:54:55 PM
Subject: FW: control dog Taurine-urine

FYI

Jennifer Jones, DVM
Veterinary Medical Officer
Tel: 240-402-5421



From: Andrea Fascetti <ajfascetti@ucdavis.edu>
Sent: Tuesday, September 18, 2018 8:17 AM
To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>
Subject: Re: control dog Taurine-urine

Hi Jen - Here is B6 email address:

B6

And Josh:

jstern@ucdavis.edu

I hope this helps.

Andrea

On Sep 18, 2018, at 1:23 PM, Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov> wrote:

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I got your message about the collaboration with Joshua Stern and B6 We will need to get some documentation first, but otherwise, we'd be happy to share the control urine taurine data. I'm checking to see what agreements we need. Can you please provide B6 email? After I get the documents, I can send them to the group for signature, and then we can share the data.
Thank you for the collaborative opportunity!

B6

Take care,
Jen

Jennifer L. A. Jones, DVM

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<image001.png> <image002.png>

From: Jones, Jennifer L </o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0f6ca12eaa9348959a4cbb1e829af244-Jennifer.Jo>
To: Peloquin, Sarah
Sent: 9/18/2018 2:12:18 PM
Subject: RE: control dog Taurine-urine

No-this is different. We can chat tomorrow.

Jennifer Jones, DVM
Veterinary Medical Officer
Tel: 240-402-5421



From: Peloquin, Sarah
Sent: Tuesday, September 18, 2018 10:08 AM
To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>
Subject: RE: control dog Taurine-urine

Is that the urine that CVCA will be collecting?
How many dogs are in the study so far, with the original requirements?

From: Jones, Jennifer L
Sent: Tuesday, September 18, 2018 9:55 AM
To: Peloquin, Sarah <Sarah.Peloquin@fda.hhs.gov>
Subject: FW: control dog Taurine-urine

FYI

Jennifer Jones, DVM
Veterinary Medical Officer
Tel: 240-402-5421



From: Andrea Fascetti <ajfascetti@ucdavis.edu>
Sent: Tuesday, September 18, 2018 8:17 AM
To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>
Subject: Re: control dog Taurine-urine

Hi Jen - Here is B6 email address:

B6 [@ucdavis.edu](mailto:>@ucdavis.edu)

And Josh:

jstern@ucdavis.edu

I hope this helps.

Andrea

On Sep 18, 2018, at 1:23 PM, Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov> wrote:

Good morning Andrea,

I got your message about the collaboration with Joshua Stern and [B6] We will need to get some documentation first, but otherwise, we'd be happy to share the control urine taurine data. I'm checking to see what agreements we need. Can you please provide [B6] email? After I get the documents, I can send them to the group for signature, and then we can share the data.

Thank you for the collaborative opportunity!

[B6]

Take care,
Jen

Jennifer L. A. Jones, DVM

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Web: <http://www.fda.gov/AnimalVeterinary/ScienceResearch/ucm247334.htm>
<image001.png> <image002.png>

From: Rotstein, David </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=0A3B17EBFCF14A6CB8E94F322906BADD-DROTSTEI>
To: Carey, Lauren; Ceric, Olgica; Glover, Mark; Jones, Jennifer L; Nemser, Sarah; Palmer, Lee Anne; Peloquin, Sarah; Queen, Jackie L; Rotstein, David
Sent: 10/9/2018 1:48:13 PM
Subject: house mate of EON-366516 (attached) FW: Taste of the Wild (various flavors) since Nov 2013: Lisa Freeman - EON-367899
Attachments: 2055822-report.pdf; Taste of the Wild-Last 1-2 bags (for 2 dogs) before diagnosis were Southwest Canyon flavor-Before that: Lisa Freeman - EON-366516; 2055822-attachments.zip

David Rotstein, DVM, MPVM, Dipl. ACVP
CVM Vet-LIRN Liaison
CVM OSC/DC/CERT
7519 Standish Place
B6 (BB)



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From: PFR Event <pfpreventcreation@fda.hhs.gov>
Sent: Tuesday, October 09, 2018 9:45 AM
To: Cleary, Michael * <Michael.Cleary@fda.hhs.gov>; HQ Pet Food Report Notification <HQPetFoodReportNotification@fda.hhs.gov>; B6
Subject: Taste of the Wild (various flavors) since Nov 2013: Lisa Freeman - EON-367899

A PFR Report has been received and PFR Event [EON-367899] has been created in the EON System.

A "PDF" report by name "2055822-report.pdf" is attached to this email notification for your reference. Please note that all documents received in the report are compressed into a zip file by name "2055822-attachments.zip" and is attached to this email notification.

Below is the summary of the report:

EON Key: EON-367899
ICSR #: 2055822
EON Title: PFR Event created for Taste of the Wild (various flavors) since Nov 2013; 2055822

AE Date	10/02/2018	Number Fed/Exposed	2
Best By Date		Number Reacted	2

Animal Species	Dog	Outcome to Date	Stable
Breed	Doberman Pinscher		
Age	B6 years		
District Involved	PFR-New England DO		

Product information

Individual Case Safety Report Number: 2055822

Product Group: Pet Food

Product Name: Taste of the Wild (various flavors) since Nov 2013

Description: Asymptomatic but is housemate of **B6** who was diagnosed with DCM recently (FDA ICSR ID 2055229). Eating same diet until mid-September when switched to Pro Plan Weight Management dry. Note **B6** does not have clear DCM but has reduced contractility. Will recheck in 6 months. Taurine pending - will submit when available.

Submission Type: Initial

Report Type: Adverse Event (a symptom, reaction or disease associated with the product)

Outcome of reaction/event at the time of last observation: Stable

Number of Animals Treated With Product: 2

Number of Animals Reacted With Product: 2

Product Name	Lot Number or ID	Best By Date
Taste of the Wild (various flavors) since Nov 2013		

Sender information

Lisa Freeman
 200 Westboro Rd
 North Grafton, MA 01536
 USA

Owner information

B6

To view this PFR Event, please click the link below:

B6

To view the PFR Event Report, please click the link below:

B6

=====

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Cummings Veterinary Medical Center

AT TUFTS UNIVERSITY

Cardiology Liaison: 508-887-4696

B6

Patient ID: S200403

B6

Canine

Years Old Male (Neutered) Doberman

Pinscher

Black/Tan

Cardiology Appointment Report

Date: 9/20/2018

Attending Cardiologist:

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

Cardiology Resident:

B6

Cardiology Technician:

B6

CVT, VTS (Cardiology)

Student:

B6

V19

Presenting Complaint:

Recheck of DCM with active CHF

General Medical History:

Has been his normal self, went on one 20 min walk since he was last here and had no trouble at all.

PU/PD (due to lasix)

Diet and Supplements:

Fromm Mature: 4 cups a day

Cardiovascular History:

Prior CHF diagnosis? Yes

Prior heart murmur? Yes, grade III/VI

Prior ATE?, N

Prior arrhythmia? Y, VPCs

Monitoring respiratory rate and effort at home? N, but havent noticed any labored breathing

Cough? N

Shortness of breath or difficulty breathing? N

Syncope or collapse? N

Sudden onset lameness? N

Exercise intolerance? N

Current Medications Pertinent to CV System:

Medication: B6

B6

Medication: B6

B6

Medication: B6

B6

Medication: B6

Can we call their pharmacy with a script for this?

Cardiac Physical Examination:

General PE:

MM Color and CRT:

BCS (1-9):

BW (kg): 34.2 Kg

Heart rate:

Respiratory rate:

Temp (if possible):

Muscle condition:

- Normal
- Mild muscle loss

- Moderate cachexia
- Marked cachexia

Cardiovascular Physical Exam:

Murmur Grade:

- None
- I/VI
- II/VI
- III/VI
- IV/VI
- V/VI
- VI/VI

Murmur location/description:

Jugular vein:

- Bottom 1/3 of the neck
- Middle 1/3 of the neck
- 1/2 way up the neck
- Top 2/3 of the neck

Arterial pulses:

- Weak
- Fair
- Good
- Strong
- Bounding
- Pulse deficits
- Pulsus paradoxus
- Other:

Arrhythmia:

- None
- Sinus arrhythmia
- Premature beats
- Bradycardia
- Tachycardia

Gallop:

- Yes
- No
- Intermittent

- Pronounced
- Other:

Pulmonary assessments:

- Eupneic
- Mild dyspnea
- Marked dyspnea
- Normal BV sounds

- Pulmonary crackles
- Wheezes
- Upper airway stridor

Abdominal exam:

- Normal
- Hepatomegaly
- Abdominal distension

- Mild ascites
- Marked ascites

Problems:

Differential Diagnoses:

Diagnostic plan:

- Echocardiogram
- Chemistry profile
- ECG
- Renal profile
- Blood pressure

- Dialysis profile
- Thoracic radiographs
- NT-proBNP
- Troponin I
- Other tests:

Assessment and recommendations:

Final Diagnosis:

Heart Failure Classification Score:

ISACHC Classification:

- Ia
- Ib
- II

- IIIa
- IIIb

ACVIM Classification:

- A
- B1
- B2

- C
- D

Cummings Veterinary Medical Center

AT TUFTS UNIVERSITY
Cardiology Liaison: 508-887-4696

B6

Patient ID: S200408

B6 Canine
Years Old Male (Neutered)

Doberman Pinscher

Black/Tan BW: Weight (kg) 32.00

Cardiology Consultation

Date: 9/8/2018

Weight: Weight (kg) 32.00

Requesting Clinician: **B6** DVM (Resident - Emergency & Critical Care)

Attending Cardiologist:

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

Cardiology Resident:

B6

Thoracic radiographs available for review?

- Yes - in SS
 Yes - in PACS
 No

Patient location: ER

Presenting complaint and important concurrent diseases: 8 y.o doberman presenting for acute onset soft cough after exercise and at rest, worse at night. Owners report coughing episodes have been getting more frequent over the past 3 days. Grade IV/VI right sided systolic murmur ausculted on exam. Had scheduled appointment to be seen with cardiology 9/20/18 based on arrhythmia heard at rDVM.

STOP - remainder of form to be filled out by Cardiology

Physical Examination

Heart rate: 120

Respiratory rate: 28

MM Color and CRT: pk, <2

BCS (1-9): 4

Muscle condition:

- Normal
 Mild muscle loss
 Moderate cachexia
 Marked cachexia

Cardiovascular Physical Exam

Murmur Grade:

- None
 I/VI
 IV/VI
 V/VI

- II/VI
- III/VI

- VI/VI

Murmur location/description: systolic right apical

Jugular vein:

- Bottom 1/3 of the neck
- Middle 1/3 of the neck
- Top 2/3 of the neck
- 1/2 way up the neck

Arterial pulses:

- Weak
- Fair
- Good
- Strong
- Bounding
- Pulse deficits
- Pulsus paradoxus
- Other (describe):

Arrhythmia:

- None
- Sinus arrhythmia
- Premature beats
- Bradycardia
- Tachycardia

Gallop:

- Yes
- No
- Intermittent
- Pronounced
- Other:

Pulmonary assessments:

- Eupneic
- Mild dyspnea
- Marked dyspnea
- Normal BV sounds
- Pulmonary Crackles
- Wheezes
- Upper airway stridor
- Other auscultatory findings:

Abdominal exam:

- Normal
- Hepatomegaly
- Abdominal distension
- Mild ascites

B6

Mitral inflow:

- Summated
- Normal
- Delayed relaxation
- Pseudonormal
- Restrictive

B6

Assessment and recommendations: Findings consistent with DCM and active congestive heart failure. Simpson and sphericity index revealed advanced LV dilation and enlarged LA are consistent with advanced DCM. B6

B6

Treatment plan:

B6

Final Diagnosis:

L-CHF secondary to DCM

Addendum:

9/9/18 - Patient did well overnight, rare episodes of cough and respiratory rate stayed stable

B6

Heart Failure Classification Score:

ISACHC Classification:

- | | |
|--|-------------------------------|
| <input type="checkbox"/> Ia | <input type="checkbox"/> IIIa |
| <input type="checkbox"/> Ib | <input type="checkbox"/> IIIb |
| <input checked="" type="checkbox"/> II | |

ACVIM CHF Classification:

- | | |
|-----------------------------|---------------------------------------|
| <input type="checkbox"/> A | <input checked="" type="checkbox"/> C |
| <input type="checkbox"/> B1 | <input type="checkbox"/> D |
| <input type="checkbox"/> B2 | |

Cummings Veterinary Medical Center

AT TUFTS UNIVERSITY

Foster Hospital for Small Animals
55 Willard Street
North Grafton, MA 01936
Telephone (508) 839-5395
Fax (508) 839-7951
<http://vetmed.tufts.edu/>

Emergency & Critical Care Liaison: (508) 887-4745

Patient

Name:

B6

Signalment:

B6 Years Old Black/Tan Male
(Neutered) Doberman Pinscher

Owner

Name:

Address:

B6

Patient ID:

S200403

Emergency Clinician:

B6

DVM (Intern)

Consulting Clinician:

ER Services:

B6

Discharge Instructions

Admit Date: 9/8/2018 10:52:58 AM

Check Out Date: 9/8/2018

Case Summary

Diagnosis:

1. Dilated cardiomyopathy with active congestive heart failure.

Case Summary:

Thank you for bringing B6 to Tufts ER for evaluation of his persistent cough. You reported that he suddenly developed a cough three days ago and that it is worse after exercise or when he is resting at night. On presentation he was bright and alert. His vital signs (heart rate, respiratory rate, and temperature) were all within normal limits. He had an audible bilateral heart murmur. He coughed when his trachea was palpated lightly.

Based on his breed and clinical presentation, we opted to do radiographs and have an emergency consult with the cardiology department because of concerns of dilated cardiomyopathy (DCM). This is a common condition for this breed. Also, grain-free diets may predispose animals to developing dilated cardiomyopathy or make a pre-existing disease to get worse.

On his cardiology consult, ultrasound showed significantly decreased contraction of the heart, confirming dilated cardiomyopathy. EKG showed occasional abnormal heartbeats originating from the ventricle. Based on the results of his radiographs and cardiology consult, B6 was started on diuretics to relieve some of the fluid building up in his lungs. He was also started on pimobendan, which increases the strength of heart contractions. As grain free diet can affect absorption of some nutrients, Taurine supplementation was started. He was placed on an EKG overnight to determine if any arrhythmias are present.

Patient Care Instructions:

1. **Exercise restrictions:** Do not allow B6 to overexert himself. He may still go for short walks and play with his sister but avoid strenuous activity like hiking or chasing squirrels which may overexert his heart.

2. **Diet:** We recommend to discontinue the grain free diet - a sheet that has suggestions for diet and low sodium treats can be found on the HeartSmart web site (<http://vet.tufts.edu/heartsmart/diet/>). We recommend as dry options:

- Royal Canin Early Cardiac;
- Royal Canin Boker;
- Purina ProPlan Adult Weight Management.

Medications:

Recommended Medications:

B6

Recheck Visits: Please come in for your scheduled cardiology appointment on September 20th at 1PM as a re-check appointment.

Thank you for entrusting us with B6 care. Please contact our Cardiology liaison at (508)-887-4696 or email us at cardiovet@tufts.edu for scheduling and non-emergent questions or concerns.

Please visit our HeartSmart website for more information

<http://vet.tufts.edu/heartsmart/>

Prescription Refill Disclaimer:

For the safety and well-being of our patients, your pet must have had an examination by one of our veterinarians within the past year in order to obtain prescription medications.

Ordering Food:

Please check with your primary veterinarian to purchase the recommended diet(s). If you wish to purchase your food from us, please call 7-10 days in advance (508-887-4629) to ensure the food is in stock. Alternatively, veterinary diets can be ordered from online retailers with a prescription/veterinary approval.

Clinical Trials:

Clinical trials are studies in which our veterinary doctors work with you and your pet to investigate a specific disease process or a promising new test or treatment. Please see our website: vet.tufts.edu/cvmc/clinical-studies

Case:

Owner:

Discharge Instructions

From: Related PFR Event <pfrsignificantactivitycreation@fda.hhs.gov>
To: Rotstein, David; Cleary, Michael *; HQ Pet Food Report Notification;
B6
Sent: 6/11/2019 6:36:57 PM
Subject: Pure Balance Salmon and Pea dry: Lisa Freeman - EON-390200
Attachments: 2068093-report.pdf; 2068093-attachments.zip

A PFR Report has been received and Related PFR Event [EON-390200] has been created in the EON System.

A "PDF" report by name "2068093-report.pdf" is attached to this email notification for your reference. Please note that all documents received in the report are compressed into a zip file by name "2068093-attachments.zip" and is attached to this email notification.

Below is the summary of the report:

EON Key: EON-390200

ICSR #: 2068093

EON Title: Related PFR Event created for Pure Balance Salmon and Pea dry, Taste of the Wild High Prairie dry; 2068093

AE Date	10/31/2018	Number Fed/Exposed	1
Best By Date		Number Reacted	1
Animal Species	Dog	Outcome to Date	Stable
Breed	Retriever - Golden		
Age	B6 years		
District Involved	PFR-New England DO		

Product information

Individual Case Safety Report Number: 2068093

Product Group: Pet Food

Product Name: Pure Balance Salmon and Pea dry, Taste of the Wild High Prairie dry

Description: DCM and CHF diagnosed 10/31/18. On BEG diet. Normal taurine levels

Submission Type: Followup

Report Type: Adverse Event (a symptom, reaction or disease associated with the product)

Outcome of reaction/event at the time of last observation: Stable

Number of Animals Treated With Product: 1

Number of Animals Reacted With Product: 1

Product Name	Lot Number or ID	Best By Date
Taste of the Wild High Prairie dry		
Pure Balance Salmon and Pea dry		

This report is linked to:

Initial EON Event Key: EON-370760

Initial ICSR: 2058697

Sender information

Lisa Freeman
200 Westboro Rd
North Grafton, MA 01536
USA

Owner information

B6
USA

To view this Related PFR Event, please click the link below:

B6

To view the Related PFR Event Report, please click the link below:

B6

This email and attached document are being provided to you in your capacity as a Commissioned Official with the U.S. Department of Health and Human Services as authorized by law. You are being provided with this information pursuant to your signed Acceptance of Commission.

This email message is intended for the exclusive use of the recipient(s) named above. It may contain information that is protected, privileged, or confidential. Any dissemination, distribution, or copying is strictly prohibited.

The information is provided as part of the Federal-State Integration initiative. As a Commissioned Official and state government official, you are reminded of your obligation to protect non-public information, including trade secret and confidential commercial information that you receive from the U.S. Food and Drug Administration from further disclosure. The information in the report is intended for situational awareness and should not be shared or acted upon independently. Any and all actions regarding this information should be coordinated through your local district FDA office.

Failure to adhere to the above provisions could result in removal from the approved distribution list. If you think you received this email in error, please send an email to FDAREportableFoods@fda.hhs.gov immediately.

Discharge Instructions

Patient

Name: B6

Species: Canine

Blonde Female (Spayed) Golden

Retriever

Birthdate: B6

Owner

Name: B6

Address: B6

Patient ID: B6

Attending Cardiologist:

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

Cardiology Resident:

B6

Cardiology Technician:

B6

Student: B6 V19

Admit Date: B6

Discharge Date: B6

Diagnoses:

Dilated cardiomyopathy (DCM);

Intermittent ventricular arrhythmia.

Case summary:

Thank you for bringing B6 to the Tufts Cardiology Service for a recheck visit. On examination today B6 had mild abdominal effort when breathing and had an intermittent arrhythmia when we were listening to her heart. On echocardiogram, her dilated cardiomyopathy (DCM) similar to when we last saw her in November. However, on electrocardiogram (ECG) B6 had an intermittent arrhythmia called ventricular bigeminy where one part of her heart has electrical activity that is abnormal. On chest X-rays, the lungs look slightly worse.

While she was here today, we were worried about how B6 was breathing, so we gave her an extra injectable dose of furosemide and an extra oral dose of B6 which seemed to help her. This makes us believe that she needs some adjustments in her medications, as described below.

Monitoring at home:

- We would like you to monitor her breathing rate and effort at home, ideally during sleep or at a time of rest. The doses of drugs will be adjusted based on the breathing rate and effort.
- In general, most dogs with heart failure that is well controlled have a breathing rate at rest of less than 36 breaths

per minute. In addition, the breathing effort, noted by the amount of belly wall motion used for each breath, is fairly minimal if heart failure is controlled.

- An increase in breathing rate or effort will usually mean that you should give an extra dose of **B6** if difficulty breathing is not improved by within 30-60 minutes after giving extra furosemide then we recommend that a recheck exam be scheduled and/or that your dog be evaluated by an emergency clinic.
- There are instructions for monitoring breathing, and a form to help keep track of breathing rate and drug doses, on the Tufts HeartSmart web site (<http://vet.tufts.edu/heartsmart/at-home-monitoring/>).
- We also want you to watch for weakness or collapse, a reduction in appetite, worsening cough, or distention of the belly as these findings indicate that we should do a recheck examination.
- If you have any concerns, please call or have your dog evaluated by a veterinarian. Our emergency clinic is open 24 hours/day.

B6

5. Taurine supplementation: Give 1000mg (2 capsules) by mouth twice daily. (Brands we recommend include Twinkl, Swanson, NOW and GNC brands).

Taurine is an amino acid that is shown to be necessary for appropriate heart health. Supplementing Taurine, in some cases, has led to reduction in heart enlargement and an increase in heart health in dogs with DCM. Even though Kiwi has normal taurine levels, this supplement could still help her heart contract better.

Diet suggestions:

Dogs with heart failure accumulate more fluid in their body if they eat large amounts of sodium (salt). Sodium can be found in all foods, but some foods are lower in sodium than others. Many pet treats, people foods, and supplements used to give pills often have more sodium than is desirable - a sheet that has suggestions for low sodium treats can be found on the HeartSmart web site (<http://vet.tufts.edu/heartsmart/diet/>)

Your dog's usual diet may also have more sodium than recommended - we want him/her to continue to eat his/her normal diet for the first 7 to 14 days so we can make sure he is tolerating medications well, but after that time we would recommend slowly introducing one of the lower sodium diets on the HeartSmart list (25% of the new diet and 75% old diet for 2-3 days, then 50/50, etc.). Hopefully you can find a diet on the list that your dog likes to eat. Alternatively, if you are attached to the current diet you can research the amount of sodium in the diet to ensure that the sodium content is similar to those on the list.

- The FDA is currently investigating an apparent association between diet and a type of heart disease called dilated cardiomyopathy. The exact cause is still unclear, but it appears to be associated with boutique diets and those containing exotic ingredient or are grain-free. Therefore, we are currently recommending that dogs do not eat these types of diets.

- We recommend switching [B6] to commercial diet made by a well-established company that is not grain-free and does not contain any exotic ingredients, such as kangaroo, duck, lamb, venison, lentils, peas, beans, buffalo, tapioca, barley, and chickpeas.
- The FDA issued a statement regarding this issue (<https://www.fda.gov/AnimalVeterinary/NewsEvents/CVMUpdates/uom613305.htm>) and a recent article published by Dr. Lisa Freeman on the Cummings School's Pet Foodology blog can further explain these findings (<http://vetnutrition.tufts.edu/2018/06/a-broken-heart-risk-of-heart-disease-in-boutique-or-grain-free-diets-and-exotic-ingredients/>).
- Our nutritionists have compiled a list of dog foods that are good options for dogs with heart disease.

If your dog has special nutritional needs or requires a homecooked diet, we recommend you schedule an appointment with our nutritionists (508-887-4696).

Exercise Recommendations:

[B6] can continue to have controlled leash walks. However, if you find that she is lagging behind or needs to stop on a walk then this was too long a walk and shorter walks are advised in the future. Repetitive or strenuous high energy activities (repetitive ball chasing, running fast off-leash, etc.) are generally not advised at this stage of heart failure.

Recheck Visits:

A recheck visit is recommended at [B6], when we will recheck her echocardiogram and perform some blood tests.

Thank you for entrusting us with [B6] care. Please contact our Cardiology liaison at (508)-887-4696 or email us at cardiovet@tufts.edu for scheduling and non-emergent questions or concerns.

Please visit our HeartSmart website for more information

<http://vet.tufts.edu/heartsmart/>

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Clinical Trials:

Clinical trials are studies in which our veterinary doctors work with you and your pet to investigate a specific disease process or a promising new test or treatment. Please see our website: vet.tufts.edu/cvmc/clinical-studies

Case: [B6]

Owner: [B6]

Discharge Instructions

Radiology Request & Report

Patient

Name: B6
Species: Canine
Blonde Female (Spayed) Golden
Retriever
Birthdate: B6

Owner

Name: B6
Address: B6

Patient ID: B6
Date of request: B6

Attending Clinician: B6 DVM (Resident - Cardiology)

Student: B6 V19

Date of exam: 2/14/2019

Patient Location: Ward/Cage: cardio room

Weight (kg) 25.70

- Inpatient
- Outpatient Time:
- Waiting
- Emergency

Sedation

- BAG
- OBAG
- 1/2 dose OBAG
- DexDomitor/Butorphanol
- Anesthesia to sedate/anesthetize

Examination Desired: Thoracic rads RL + DV

Presenting Complaint and Clinical Questions you wish to answer:

Cardiology Recheck DCM. History of CHF on October 2018. Shortness of breath today. Worse DCM on echo today.

Pertinent History:

B6

Conclusions:

-Moderate to marked generalized cardiomegaly with moderate to marked left atrial enlargement are consistent with previous diagnosis of dilated cardiomyopathy. On this study, cardiogenic edema is thought less likely. Follow-up radiographs can be consider to monitor this possibility.
-Mild non-specific hepatomegaly.

Radiologists

Primary: [B6] DVM
Reviewing:

Dates

Reported: [B6]
Finalized:

Cummings Veterinary Medical Center

AT TUFTS UNIVERSITY

Cardiology Liaison: 508-887-4696

B6

Patient ID: **B6**

B6 Canine
Years Old Female (Spayed) Golden Retriever
Blonde

Cardiology Appointment Report ENROLLED IN DCM STUDY

Date: 2/14/2019

Attending Cardiologist:

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

Cardiology Resident:

B6

Cardiology Technician:

B6

Student: **B6** V19

Presenting Complaint:

Recheck DCM with a history of CHF

Concurrent Diseases:

None

General Medical History:

Diagnosed with DCM and CHF on **B6** enrolled in DCM study.

In the past week or so she is not as energized, not as interactive with O which is abnormal for her, going to sleep a lot earlier, slowing down significantly on her daily walk. Coughing/gagging again, about twice a day which also started about a week ago. Breathing sounds like she is wheezing on occasion especially when sleeping, also started in the last week. O unsure of respiratory rate during these episodes, though she does seem to have abdominal effort. Great appetite still, drinks a lot but has been since starting meds. Only change in routine is that O has been home more frequently in the last week or so.

Around christmas she had an episode where she collapsed on a walk and was unconscious. She had spit out some **B6** pills that day. Took some time to get back on track but had been normal up until this last week.

Diet and Supplements:

Purina true instinct turkey blend dry, 1 "scoop" twice a day, alpo dog treats daily
No supplements

Cardiovascular History:

Prior CHF diagnosis? yes

Prior heart murmur? yes

Prior ATE? no

Prior arrhythmia? no

Monitoring respiratory rate and effort at home? Yes, not super consistent about checking it, but when they do check it is around 24 on average, never above 40

Cough? Yes

Shortness of breath or difficulty breathing? Yes

Syncope or collapse? Yes in december

Sudden onset lameness? No, limps on a back leg occasionally, gets worse throughout the day, waxes and wanes

Exercise intolerance? Yes

B6

Muscle condition:

Normal

Mild muscle loss

Moderate cachexia

Marked cachexia

Cardiovascular Physical Exam:

Murmur Grade:

None

I/VI

II/VI

IV/VI

V/VI

VI/VI

III/VI

Murmur location/description: left apical systolic

Jugular vein:

- | | |
|--|--|
| <input checked="" type="checkbox"/> Bottom 1/3 of the neck | <input type="checkbox"/> 1/2 way up the neck |
| <input type="checkbox"/> Middle 1/3 of the neck | <input type="checkbox"/> Top 2/3 of the neck |

Arterial pulses:

- | | |
|--|---|
| <input type="checkbox"/> Weak | <input type="checkbox"/> Bounding |
| <input checked="" type="checkbox"/> Fair | <input type="checkbox"/> Pulse deficits |
| <input type="checkbox"/> Good | <input type="checkbox"/> Pulsus paradoxus |
| <input type="checkbox"/> Strong | <input type="checkbox"/> Other: |

Arrhythmia:

- | | |
|---|--------------------------------------|
| <input checked="" type="checkbox"/> None | <input type="checkbox"/> Bradycardia |
| <input type="checkbox"/> Sinus arrhythmia | <input type="checkbox"/> Tachycardia |
| <input type="checkbox"/> Premature beats | |

Gallop:

- | | |
|--|-------------------------------------|
| <input type="checkbox"/> Yes | <input type="checkbox"/> Pronounced |
| <input checked="" type="checkbox"/> No | <input type="checkbox"/> Other: |
| <input type="checkbox"/> Intermittent | |

Pulmonary assessments:

- | | |
|--|---|
| <input type="checkbox"/> Eupneic | <input type="checkbox"/> Pulmonary crackles |
| <input checked="" type="checkbox"/> Mild dyspnea | <input type="checkbox"/> Wheezes |
| <input type="checkbox"/> Marked dyspnea | <input type="checkbox"/> Upper airway stridor |
| <input checked="" type="checkbox"/> Normal BV sounds | |

Abdominal exam:

- | | |
|---|---|
| <input type="checkbox"/> Normal | <input type="checkbox"/> Mild ascites |
| <input type="checkbox"/> Hepatomegaly | <input type="checkbox"/> Marked ascites |
| <input checked="" type="checkbox"/> Abdominal distension-mild cranial distension, non-painful on palpation, no masses/organomegaly/fluid wave noted | |

Problems:

DCM with a hx of CHF 10/31/18

Diagnostic plan:

- | | |
|--|--|
| <input checked="" type="checkbox"/> Echocardiogram | <input type="checkbox"/> Dialysis profile |
| <input type="checkbox"/> Chemistry profile | <input checked="" type="checkbox"/> Thoracic radiographs |
| <input type="checkbox"/> ECG | <input checked="" type="checkbox"/> NT-proBNP |
| <input type="checkbox"/> Renal profile | <input checked="" type="checkbox"/> Troponin I |
| <input type="checkbox"/> Blood pressure | <input type="checkbox"/> Other tests: |

B6

B6

Mitral inflow:

- | | |
|---|---------------------------------------|
| <input type="checkbox"/> Summated | <input type="checkbox"/> Pseudonormal |
| <input checked="" type="checkbox"/> Normal | <input type="checkbox"/> Restrictive |
| <input type="checkbox"/> Delayed relaxation | |

B6

Radiographic findings:

Marked generalized cardiomegaly with severe LA enlargement. The pulmonary vessels appear to be at the upper end of normal. Suspicion for a mild interstitial pattern in the caudal lung lobe consistent with mild pulmonary edema/CHF.

Assessment and recommendations:

Findings consistent with poor but stable systolic dysfunction and cardiac size. Thoracic radiographs suggest mild active CHF and ECG reveals frequent ventricular arrhythmias which were not present before. Thus, medication adjustment is needed and B6 are recommended. B6 it is unclear at this point whether patient has primary DCM or diet-induced cardiomyopathy. However, it has been only 4 months and current diet should be maintained and additionally today Taurine 1000mg BID was started. Recommend recheck echocardiogram in 3 months or sooner in case patient develops clinical signs consistent with worsening of the disease.

Final Diagnosis:

- DCM with marked LA enlargement r/o primary DCM vs. diet-induced;
- Suspected active CHF.

Heart Failure Classification Score:

ISACHC Classification:

- | | |
|-----------------------------|--|
| <input type="checkbox"/> Ia | <input checked="" type="checkbox"/> IIIa |
| <input type="checkbox"/> Ib | <input type="checkbox"/> IIIb |
| <input type="checkbox"/> II | |

ACVIM Classification:

- | | |
|----------------------------|---------------------------------------|
| <input type="checkbox"/> A | <input checked="" type="checkbox"/> C |
|----------------------------|---------------------------------------|

- B1
- B2

D

M-Mode

IVSd

LVIDd

LVPWd

IVSs

LVIDs

LVPWs

EDV(Teich)

ESV(Teich)

EF(Teich)

%FS

SV(Teich)

Ao Diam

LA Diam

LA/Ao

Max LA

TAPSE

EPSS

B6

cm
cm
cm
cm
cm
ml
ml
%
%
ml
cm
cm
cm
cm
cm
cm

M-Mode Normalized

IVSdN

LVIDdN

LVPWdN

IVSsN

LVIDsN

LVPWsN

Ao Diam N

LA Diam N

B6

{0.290 - 0.520}
{1.350 - 1.730} !
{0.330 - 0.530}
{0.430 - 0.710}
{0.790 - 1.140} !
{0.530 - 0.780}
{0.680 - 0.890} !
{0.640 - 0.900} !

2D

SA LA

Ao Diam

SA LA / Ao Diam

IVSd

LVIDd

LVPWd

EDV(Teich)

IVSs

LVIDs

LVPWs

ESV(Teich)

EF(Teich)

%FS

SV(Teich)

LV Major

LV Minor

B6

cm
cm
cm
cm
ml
cm
cm
cm
ml
%
%
ml
cm
cm

Sphericity Index

LVld LAX
LVAd LAX
LVEDV A-L LAX
LVEDV MOD LAX
LVls LAX
LVA_s LAX
LVESV A-L LAX
LVESV MOD LAX
HR
EF A-L LAX
LVEF MOD LAX
SV A-L LAX
SV MOD LAX
CO A-L LAX
CO MOD LAX

B6

cm
cm
ml
ml
cm
cm
ml
ml
BPM
%
%
ml
ml
l/min
l/min

Doppler

MR Vmax
MR maxPG
MV E Vel
MV DecT
MV Dec Slope
MV A Vel
MV E/A Ratio
E'
E/E'
A'
S'
AV Vmax
AV maxPG
PV Vmax
PV maxPG
TR Vmax
TR maxPG

B6

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m/s

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mmHg
m/s
mmHg

B6

B6 Female (Spayed)
Canine Golden Retriever Blonde
Patient ID: **B6**

Outside Prescription Log

B6

B6

8. Date:

Clinician:

Prescription:

Pharmacy sent to:

Completed by:

Origin of request:

9. Date:

Clinician:

Prescription:

Pharmacy sent to:

Completed by:

Origin of request:

10. Date:

Clinician:

Prescription:

Pharmacy sent to:

Completed by:

Origin of request:

Discharge Instructions

Patient

Name: B6

Species: Canine

Blonde Female (Spayed) Golden

Retriever

Birthdate: B6

Owner

Name: B6

Address: B6

Patient ID: B6

Attending Cardiologist:

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

Cardiology Resident:

B6

Cardiology Technician:

B6

Student:

Admit Date: 5/16/2019

Diagnoses:

- o Dilated cardiomyopathy (DCM)

Case summary:

Thank you for bringing B6 to the B6 Cardiology Service for a recheck visit. We are happy to hear that B6 is doing well at home on her current medication regimen. On examination today, B6 vital parameters (heart rate and respiratory rate) were within normal limits. On echocardiogram, her dilated cardiomyopathy (DCM) is similar to when we last saw her in February (no worse). B6 respiratory rate and effort were increased during her echocardiogram and we administered an injectable dose of furosemide.

Today we drew blood to submit a serum chemistry and recheck NT-Pro-BNP and also collected urine for a urinalysis. We will call you tomorrow with the results of these tests.

Please continue to monitor B6 respiratory rate and effort at home. If it is increased in rate and effort, you can give one dose of B6 (another diuretic that is more potent than B6). This medication can be used as a "rescue", and please let us know if you ever had to give her any dose. In case you notice that she is breathing with a respiratory rate higher than 32bpm (at rest), we can also take radiographs to look for signs of congestive heart failure.

When we call you tomorrow with bloodwork results we will discuss how her breathing has been at home.

Monitoring at home:

- We would like you to monitor her breathing rate and effort at home, ideally during sleep or at a time of rest. The doses of drugs will be adjusted based on the breathing rate and effort.
- In general, most dogs with heart failure that is well controlled have a breathing rate at rest of less than 36 breaths per minute. In addition, the breathing effort, noted by the amount of belly wall motion used for each breath, is fairly minimal if heart failure is controlled.
- An increase in breathing rate or effort will usually mean that you should give an extra dose of B6 if difficulty breathing is not improved by within 30-60 minutes after giving extra furosemide then we recommend that a recheck exam be scheduled and/or that your dog be evaluated by an emergency clinic.
- There are instructions for monitoring breathing, and a form to help keep track of breathing rate and drug doses, on the Tufts HeartSmart web site (<http://vet.tufts.edu/heartsmart/at-home-monitoring/>).
- We also want you to watch for weakness or collapse, a reduction in appetite, worsening cough, or distention of the belly as these findings indicate that we should do a recheck examination.
- If you have any concerns, please call or have your dog evaluated by a veterinarian. Our emergency clinic is open 24 hours/day.

B6

Exercise Recommendations:

Continue to exercise restrict B6 at home. Repetitive or strenuous high energy activities (repetitive ball chasing, running fast off-leash, etc.) are generally not advised at this stage of heart failure.

Recheck Visits:

A recheck visit is recommended at Tuesday, August 19th at 1pm, when we will recheck her echocardiogram and perform some blood tests.

Thank you for entrusting us with B6 care. Please contact our Cardiology liaison at (508) 887-4696 or email us at cardiovet@tufts.edu for scheduling and non-emergent questions or concerns.

Please visit our HeartSmart website for more information

<http://vet.tufts.edu/heartsmart/>

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For the safety and well-being of our patients, your pet must have had an examination by one of our veterinarians within the past year in order to obtain prescription medications.

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Clinical Trials:

Clinical trials are studies in which our veterinary doctors work with you and your pet to investigate a specific disease process or a promising new test or treatment. Please see our website: vet.tufts.edu/cvmc/clinical-studies

Case: B6

Owner: B6

Discharge Instructions

From: Rotstein, David </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=0A3B17EBFCF14A6CB8E94F322906BADD-DROTSTEI>
To: Carey, Lauren; Ceric, Olgica; Glover, Mark; Jones, Jennifer L; Nemser, Sarah; Palmer, Lee Anne; Peloquin, Sarah; Queen, Jackie L; Rotstein, David
Sent: 4/11/2019 9:16:05 PM
Subject: Tuff's cases-FW: ACANA - Heritage Red Meat Formula Dog Food (Grain-free) [B6] EON-384833
Attachments: 2065712-report.pdf; 2065712-attachments.zip

Echo is likely, but the dog collapsed and died [B6] Not sure if necropsy done.

David Rotstein, DVM, MPVM, Dipl. ACVP
CVM Vet-LIRN Liaison
CVM OSC/DC/CERT
7519 Standish Place

[B6]



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From: Related PFR Event <pfrsignificantactivitycreation@fda.hhs.gov>
Sent: Thursday, April 11, 2019 4:53 PM
To: Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Cleary, Michael * <Michael.Cleary@fda.hhs.gov>; HQ Pet Food Report Notification <HQPetFoodReportNotification@fda.hhs.gov>; usha.gulati@doveltech.com
Subject: ACANA - Heritage Red Meat Formula Dog Food (Grain-free) [B6] EON-384833

A PFR Report has been received and Related PFR Event [EON-384833] has been created in the EON System.

A "PDF" report by name "2065712-report.pdf" is attached to this email notification for your reference. Please note that all documents received in the report are compressed into a zip file by name "2065712-attachments.zip" and is attached to this email notification.

Below is the summary of the report:

EON Key: EON-384833
ICSR #: 2065712
EON Title: Related PFR Event created for ACANA - Heritage Red Meat Formula Dog Food (Grain-free); 2065712

AE Date	03/15/2019	Number Fed/Exposed	2
Best By Date		Number Reacted	1

Animal Species	Dog	Outcome to Date	Died Other
Breed	Shepherd Dog - German		
Age	B6 Years		
District Involved	PFR-New England DO		

Product information

Individual Case Safety Report Number: 2065712

Product Group: Pet Food

Product Name: ACANA - Heritage Red Meat Formula Dog Food (Grain-free)

Description: 3/15/2019 - Acute onset of difficulty breathing on walk, increased resp rate, wheezing and short of breath. Diagnosed with DCM and CHF **B6** Patient suddenly collapsed, within seconds of collapse patient died.

Submission Type: Followup

Report Type: Adverse Event (a symptom, reaction or disease associated with the product)

Outcome of reaction/event at the time of last observation: Died Other

Number of Animals Treated With Product: 2

Number of Animals Reacted With Product: 1

Product Name	Lot Number or ID	Best By Date
ACANA - Heritage Red Meat Formula Dog Food (Grain-free)		

This report is linked to:

Initial EON Event Key: EON-383914

Initial ICSR: 2065085

Sender information

B6

USA

Owner information

B6

USA

To view this Related PFR Event, please click the link below:

B6

To view the Related PFR Event Report, please click the link below:

B6

B6

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Failure to adhere to the above provisions could result in removal from the approved distribution list. If you think you received this email in error, please send an email to FDAREportableFoods@fda.hhs.gov immediately.

Medical Record for 4/17/2019

Client: B6
Address: B6

Patient: B6
Breed: Golden Retriever
DOB: B6

Species: Canine
Sex: Male
(Neutered)

Home Phone: B6
Work Phone: () -
Cell Phone: B6

Referring Information

B6

Client: B6
Patient: B6

Initial Complaint:

Cardiology New - possibly going to enroll in DCM study

SOAP Text Apr 17 2019 1:32PM - Rush, John

Disposition/Recommendations

Client:
Patient:

B6

Client: **B6**
 Patient:

Cummings
Veterinary Medical Center
 AT TUFTS UNIVERSITY

Foster Hospital for Small Animals

55 Willard Street
 North Grafton, MA 01536
 (508) 839-5395

Client: **B6**
 Veterinarian:
 Patient ID: **B6**
 Visit ID:

Patient: **B6**
 Species: Canine
 Breed: Golden Retriever
 Sex: Male (Neutered)
 Age: **B6** Years Old

Lab Results Report

CBC, Comprehensive, Sm Animal (Re 4/17/2019 3:28:16 PM **Accession ID: B6**

Test	Results	Reference Range	Units
RDW (ADVIA)	B6	11.9 - 15.2	
MPV (ADVIA)		8.29 - 13.2	fl
RETICS (ABS) ADVIA		14.7 - 113.7	K/uL
PDW		0 - 0	%
MCVR		0 - 0	fl
WBC (ADVIA)		4.4 - 15.1	K/uL
HGB(ADVIA)		13.3 - 20.5	g/dL
HCT(ADVIA)		39 - 55	%
CHR		0 - 0	pg
MCHC(ADVIA)		31.9 - 34.3	g/dL
CHCM		0 - 0	g/dl
PLT(ADVIA)		173 - 486	K/uL
MCH(ADVIA)		21.3 - 25.9	pg
RBC(ADVIA)		5.8 - 8.5	M/uL
MCV(ADVIA)		64.5 - 77.5	fL
RETIC(ADVIA)		0.2 - 1.6	%
PLTCRT		0.129 - 0.403	%

Microscopic Exam of Blood Smear (A 4/17/2019 3:28:16 PM **Accession ID: B6**



Client: **B6**
 Patient: **B6**

Test	Results	Reference Range	Units
WBC MORPHOLOGY		0 - 0	
No Morphologic Abnormalities			
SEGS (AB)ADVIA	B6	2.8 - 11.5	K/uL
SEGS%		43 - 86	%
RBC MORPHOLOGY		0 - 0	
No morphologic abnormalities			
L YMPHS%		7 - 47	%
L YMPHS (ABS)ADVIA		1 - 4.8	K/uL
MONOS (ABS)ADVIA		0.1 - 1.5	K/uL
MONOS%		1 - 15	%
EOS%		0 - 16	%
EOS (ABS)ADVIA		0 - 1.4	K/uL

Research Chemistry Profile - Small A 4/17/2019 3:28:16 PM **Accession ID: B6**

Test	Results	Reference Range	Units
SODIUM	B6	140 - 150	mEq/L
ALT		14 - 86	U/L
UREA		8 - 30	mg/dL
POTASSIUM		3.7 - 5.4	mEq/L
ALK PHOS		12 - 127	U/L
AGAP		8 - 19	
A/G RATIO		0.7 - 1.6	
CREATININE		0.6 - 2	mg/dL
CHLORIDE		106 - 116	mEq/L
TRIGLYCERIDES		30 - 338	mg/dl
ALBUMIN		2.8 - 4	g/dL
MAGNESIUM 2+		1.8 - 3	mEq/L
T BILIRUBIN		0.1 - 0.3	mg/dL
GLUCOSE		67 - 135	mg/dL
NA/K		29 - 40	
PHOSPHORUS		2.6 - 7.2	mg/dL
AST		9 - 54	U/L
CK		22 - 422	U/L
AMYLASE		409 - 1250	U/L
GGT		0 - 10	U/L
OSMOLALITY (CALCULATED)	291 - 315	mmol/L	



4/29

B6

Printed Monday, April 22, 2019

Client: **B6**
Patient:

CHOLESTEROL		82 - 355	mg/dL
tCO2 (BICARB)		14 - 28	mEq/L
CALCIUM2	B6	9.4 - 11.3	mg/dL
GLOBULINS		2.3 - 4.2	g/dL
T. PROTEIN		5.5 - 7.8	g/dL



5/29

B6

Printed Monday, April 22, 2019

Client:
Patient:

B6

RX **B6** give Tab 1 in AM, 1/2 in PM

Tufts University
Foster Hospital for Small Animals
Hospital for Large Animals
55 Willard Street • North Grafton, MA 01536 • (508) 839-5395

Patient:
Owner:
Address:

B6



PARTIAL FILL UPON PATIENT REQUEST

SECURITY FEATURES ON BACK

B6

Signature

John Rush DVM

Please Print

DEA #: _____

License #: _____

INTERCHANGE IS MANDATED UNLESS THE
PRACTITIONER INDICATES "NO SUBSTITUTION"
IN ACCORDANCE WITH THE LAW

Empty rectangular box for additional information or notes.

Client: **B6**
 Patient: **B6**

Diet Hx **B6**

B6

CARDIOLOGY DIET HISTORY FORM
 Please answer the following questions about your pet

Pet's name: **B6** Owner's name: **B6** Today's date: 4/7/19

1. How would you assess your pet's appetite? (mark the point on the line below that best represents your pet's appetite)

Example: Poor _____ | _____ Excellent
 Poor _____ | _____ Excellent

2. Have you noticed a change in your pet's appetite over the last 1-2 weeks? (check all that apply)

Eats about the same amount as usual Eats less than usual Eats more than usual
 Seems to prefer different foods than usual Other _____

3. Over the last few weeks, has your pet (check one)

Lost weight Gained weight Stayed about the same weight Don't know

1. Please list below ALL pet foods, people food, treats, snack, dental chews, rawhides, and any other food item that your pet currently eats and that you have fed in the last 2 years.

Please provide enough detail that we could go to the store and buy the exact same food - examples are shown in the table

Food (include specific product and flavor)	Form	Amount	How often?	Dates fed
Nutro Grain Free Chicken, Lentil, & Sweet Potato Adult	dry	1 1/2 cup	2x/day	Jan 2016-present
85% lean hamburger	microwaved	3 oz	1x/week	June -Aug 2016
Pupperoni original beef flavor	treat	1/2	1x/day	Sept 2016-present
Rawhide	treat	6 inch twist	1x/week	Dec 2018-present
B. Buf. - Regular Turkey & Chicken	Dry	1 1/2 C	2x/day	2/10 - 3/8
Blue Buffalo - grain free chicken	Dry	1 1/2 C	2x/day	8/2018 to 8/2018
Blue Buf. - Limited ingredient dry-chicken	Dry	1 1/2 C	2x/day	9/2018 - present

*Any additional diet information can be listed on the back of this sheet

2. Do you give any dietary supplements to your pet (for example: vitamins, glucosamine, fatty acids, or any other supplements)? Yes No If yes, please list which ones and give brands and amounts:

	Brand/Concentration	Amount per day
Taurine <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	_____	_____
Carnitine <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	_____	_____
Antioxidants <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	_____	_____
Multivitamin <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	_____	_____
Fish oil <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	_____	_____
Coenzyme Q10 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	_____	_____
Other (please list): Example: Vitamin C	Nature's Bounty	500 mg tablets - 1 per day

3. How do you administer pills to your pet?

- I do not give any medications
- I put them directly in my pet's mouth without food
- I put them in my pet's dog/cat food
- I put them in a Pill Pocket or similar product
- I put them in foods (list foods): piece of chicken

Client: **B6**
 Patient: **B6**

Research cbc/chem 4-17-2019



Tufts Cummings School Of Veterinary Medicine

200 Westboro Road
 North Grafton, MA 01536

DUPLICATE

Name/DOB: B6	Sex: CM	Provider: Dr. John Rush
Patient ID: B6	Age: 12	Order Location: Foster Hospital for Small Animals
Phone number:	Species: Canine	Sample ID: 1904170138
Collection Date: 4/17/2019 3:28 PM	Breed: Golden Retriever	
Approval date: 4/17/2019 6:15 PM		

CBC, Comprehensive, Sm Animal (Research)

SMACHUNSKI		Ref. Range/Males
WBC (ADVIA)	B6	4.40-15.10 K/uL
RBC (Advia)	B6	5.80-8.50 M/uL
Hemoglobin (ADVIA)	B6	13.3-20.5 g/dL
Hematocrit (Advia)	B6	39-55 %
MCV (ADVIA)	B6	64.5-77.5 fL
MCH (ADVIA)	B6	21.3-25.9 pg
CHCM	B6	
MCHC (ADVIA)	B6	31.9-34.3 g/dL
RDW (ADVIA)	B6	11.9-15.2
Platelet Count (Advia)	B6	173-486 K/uL
B6 6:15 PM	B6 plts per 100x field (estimated count of 90,000-180,000/uL)	
Mean Platelet Volume (Advia)	B6	8.29-13.20 fl
04/17/19 4:15 PM	Platelet clumps (if present) and sample age (greater than 4 hours) can result in a falsely increased MPV.	
Platelet Crit	B6	0.129-0.403 %
04/17/19 4:15 PM	Platelet Crit is invalid when clumped platelets are present. Interpretation of PltCt is unclear in species other than canines.	
PDW	B6	
Reticulocyte Count (Advia)	B6	0.20-1.60 %
Absolute Reticulocyte Count (Advia)	B6	14.7-113.7 K/uL
CHr	B6	
MCVr	B6	

Microscopic Exam of Blood Smear (Advia)

SMACHUNSKI		Ref. Range/Males
Seg Neuts (%)	B6	43-86 %
Lymphocytes (%)	B6	7-47 %
Monocytes (%)	B6	1-15 %
Eosinophils (%)	B6	0-16 %
Seg Neutrophils (Abs) Advia	B6	2.800-11.500 K/uL
Lymphs (Abs) Advia	B6	1.00-4.80 K/uL
Mono (Abs) Advia	B6	0.10-1.50 K/uL
Eosinophils (Abs) Advia	B6	0.00-1.40 K/uL
WBC Morphology	B6	
RBC Morphology	B6	

Research Chemistry Profile - Small Animal (Cobas)

Sample ID: 1904170138/1
 This report continues... (Final)

Reviewed by: _____

Client: **B6**
Patient:

Research cbc/chem 4-17-2019



Tufts Cummings School Of Veterinary Medicine

200 Westboro Road
North Grafton, MA 01536

DUPLICATE

Name/DOB: B6	Sex: CM	Provider: Dr. John Rush
Patient ID: B6	Age: 12	Order Location: Foster Hospital for Small Animals
Phone number:	Species: Canine	Sample ID: 1904170138
Collection Date: 4/17/2019 3:28 PM	Breed: Golden Retriever	
Approval date: 4/17/2019 6:15 PM		

Research Chemistry Profile - Small Animal (Cobas) (cont'd)

		Ref. Range/Males
SMACHUNSK		
Glucose		67-135 mg/dL
Urea		8-30 mg/dL
Creatinine		0.6-2.0 mg/dL
Phosphorus		2.6-7.2 mg/dL
Calcium 2		9.4-11.3 mg/dL
Magnesium 2+		1.8-3.0 mg/dL
Total Protein		5.5-7.8 g/dL
Albumin		2.8-4.0 g/dL
Globulins		2.3-4.2 g/dL
A/G Ratio		0.7-1.6
Sodium		140-150 mEq/L
Chloride		106-116 mEq/L
Potassium		3.7-5.4 mEq/L
tCO2(Bicarb)		14-28 mEq/L
AGAP		8.0-19.0
NA/K		29-40
Total Bilirubin		0.10-0.30 mg/dL
Alkaline Phosphatase		12-127 U/L
GGT		0-10 U/L
ALT		14-86 U/L
AST		9-54 U/L
Creatine Kinase		22-422 U/L
Cholesterol		82-355 mg/dL
Triglycerides		30-338 mg/dL
Amylase		409-1250 U/L
Osmolality (calculated)		291-315 mmol/L

Sample ID: 1904170138/2
REPRINT: Orig. printing on 4/17/2019 (Final)

Reviewed by: _____
Page 2

Client: **B6**
Patient: **B6**

Idexx NT-proBNP 4/17/2019

B6

Client: **B6** Patient: **B6**

B6

Client: **B6**
Patient: **B6**
Species: CANINE
Breed: GOLDEN_RETRIEVE
Gender: MALE NEUTERED
Age: 12Y

Date: 04/17/2019
Requisition #: 1A
Accession #: **B6**
Ordered by: RUSH

TUFTS UNIVERSITY
200 WESTBORO RD
NORTH GRAFTON, Massachusetts 01536
508-839-5395

Account #88933

CARDIOPET proBNP - CANINE

Test	Result	Reference Range	Low	Normal	High
CARDIOPET proBNP - CANINE	B6	0 - 900 pmol/L	HIGH		B6

Comments

B6

Please note: Complete interpretive comments for all concentrations of cardiopet proBNP are available in the online directory of services. Serum specimens received at room temperature may have decreased NT-proBNP concentrations.

Client: **B6**
Patient:

Vitals Results

4/17/2019 1:37:54 PM	Weight (kg)	38.0000
----------------------	-------------	---------

Client: **B6**
Patient:

ECG from Cardio

B6

4/17/2019 2:29:36 PM

Page 1 of 2

Tufts University
Tufts Cummings School of Vet Med
Cardiology

12-Lead Standard Placement

B6

Client:
Patient:

B6

ECG from Cardio

B6

4/17/2019 2:29:36 PM

Page 2 of 2

Tufts University
Tufts Cummings School of Vet Med
Cardiology

B6

Client: **B6**
Patient: **B6**

ECG from Cardio

B6

4/17/2019 2:32:10 PM

Tufts University
Tufts Cummings School of Vet Med
Cardiology

B6

Client: **B6**
Patient: **B6**

ECG from Cardio

B6

4/17/2019 2:34:20 PM

Tufts University
Tufts Cummings School of Vet Med
Cardiology

12 Lead Standard Placement

B6

Client: **B6**
Patient: **B6**

ECG from Cardio

B6

4/17/2019 2:34:46 PM

Page 1 of 2

Tufts University
Tufts Cummings School of Vet Med
Cardiology

12 Lead: Standard Placement

B6

Client: **B6**
Patient:

ECG from Cardio

B6

4/17/2019 2:34:46 PM

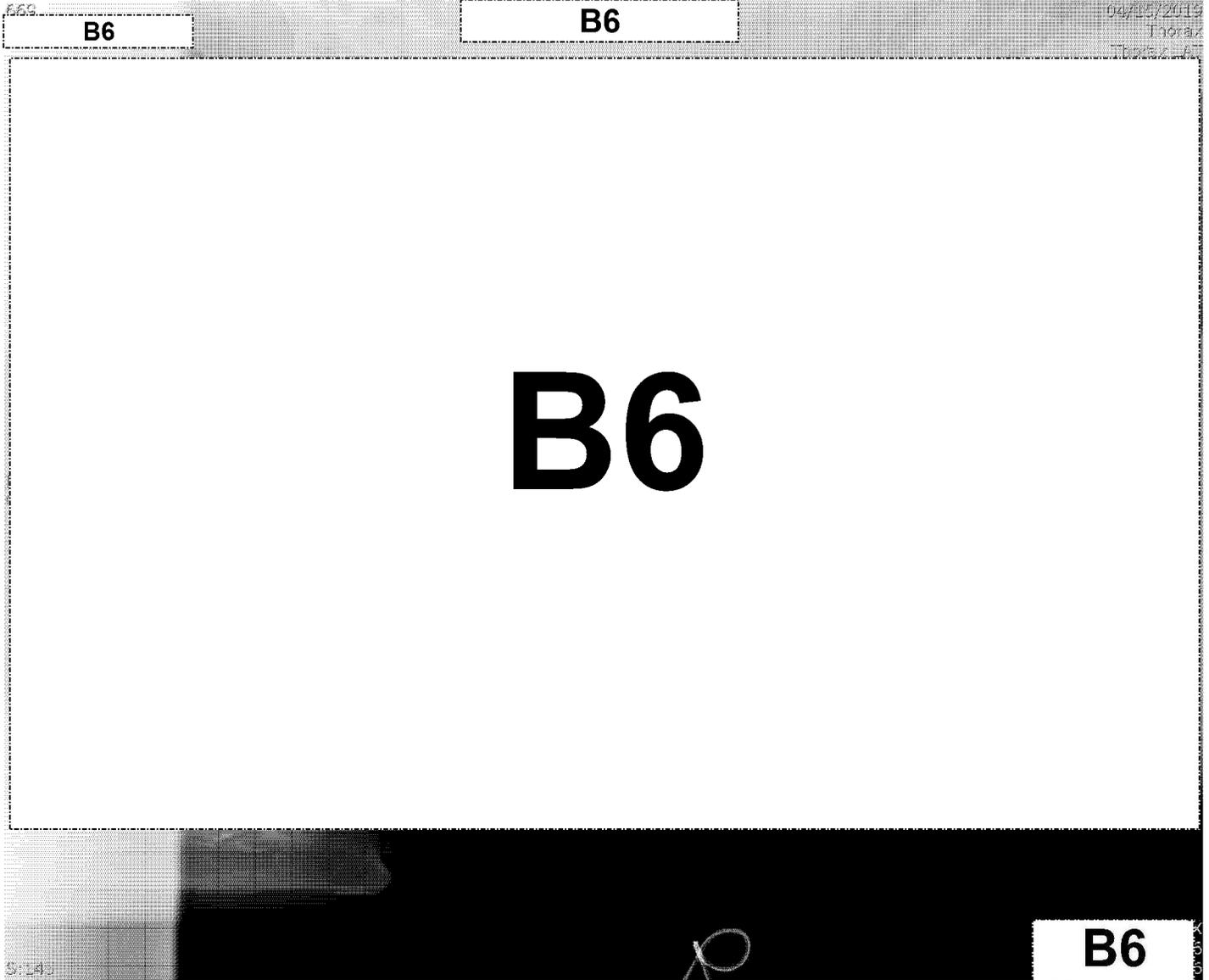
Page 2 of 2

Tufts University
Tufts Cummings School of Vet Med
Cardiology

B6

Client:
Patient: **B6**

4/15/19 rads



Client: **B6**
Patient:

Patient History

04/17/2019 01:32 PM	UserForm
04/17/2019 01:37 PM	Vitals
04/17/2019 02:00 PM	Treatment
04/17/2019 02:34 PM	Purchase
04/17/2019 02:34 PM	Purchase
04/17/2019 02:34 PM	Purchase
04/17/2019 02:45 PM	Purchase
04/17/2019 02:45 PM	Purchase
04/17/2019 03:14 PM	UserForm
04/17/2019 03:15 PM	Prescription
04/17/2019 03:16 PM	Prescription
04/17/2019 03:20 PM	Purchase
04/17/2019 03:49 PM	Prescription
04/17/2019 03:51 PM	Email

B6

Discharge Instructions

Patient

Name: B6

Species: Canine

Gold Male (Neutered) Golden Retriever

Birthdate: B6

Owner

Name: B6

Address: B6

Patient ID: B6

Attending Cardiologist:

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

Cardiology Resident:

B6

Cardiology Technician:

B6

Student:

Admit Date: 4/17/2019 1:19:29 PM

Discharge Date: 4/17/2019

Diagnoses: Chronic valvular disease with mitral regurgitation, Reduced contractile function/myocardial failure, pericardial effusion (small volume), congestive heart failure with pulmonary edema (suspected), atrial and ventricular arrhythmias

Clinical findings:

Your dog has a leak at one of the heart valves, the mitral valve, and this leak has resulted in a heart murmur and enlargement of the heart. This problem with the heart valve is a common one in dogs, due to aging changes to the valve that result in thickening and a subsequent leak of the valve. B6 also had reduced contractile function of the heart - this could be just related to end stage heart disease from the leaky valve, or may be in part related to a limited ingredient diet. The heart enlargement has now progressed to the point where fluid is backing up into the lungs causing pulmonary edema, a condition called congestive heart failure. We also found some irregular heart beats but do not seem to be frequent enough to warrant treatment at this time. However, they may eventually lead to collapse (syncope). We will re-assess the addition of this medication at the next recheck appointment.

There is a small amount of fluid around the heart (pericardial effusion) - we suspect this is due to heart failure, and we cannot see a mass that might have cause the fluid, but sometimes there is a small mass we cannot find.

We cannot do anything to change the thickening or leak at the valve, but we can use cardiac medications and some changes to the diet to make B6 comfortable and have him breathing easier. Unfortunately, this is a progressive disease and the treatment options cannot reverse the damage to the valve.

Diagnostic test results:

B6

Monitoring at home:

We would like you to monitor breathing rate and effort at home, ideally during sleep or at a time of rest. The doses of drugs will be adjusted based on the breathing rate and effort. In general, most dogs with heart failure that is well controlled have a breathing rate at rest of less than 35 breaths per minute. In addition, the breathing effort, noted by the amount of belly wall motion used for each breath, is fairly minimal if heart failure is controlled. An increase in breathing rate or effort will usually mean that you should give an extra dose of . If difficulty breathing is not improved within 30-60 minutes after giving extra furosemide then we recommend that a recheck exam be scheduled and/or that be evaluated by an emergency clinic. There are instructions for monitoring breathing, and a form to help keep track of breathing rate and drug doses, on the Tufts HeartSmart web site (<http://vet.tufts.edu/heartsmart/at-home-monitoring/>). We also want you to watch for weakness or collapse, a reduction in appetite, worsening cough, or distention of the belly as these findings indicate that we should do a recheck examination. If you notice an episode of collapse, it is okay to help the dog get back up; however, most dogs will get up on their own in about 20 minutes. If an episode of collapse occurs, we would like to know about it right away.

Recommended Medications:

B6

Diet suggestions:

Dogs with heart failure accumulate more fluid in their body if they eat large amounts of sodium (salt). Sodium can be found in all foods, but some foods are lower in sodium than others. Many treats, most people foods, and the supplements used to give pills often have more sodium than is desirable - a sheet that has suggestions for low sodium treats can be found on the HeartSmart web site. In addition, your dog's usual diet may have more sodium than recommended - we want your dog to eat their usual diet for the first 5 to 10 days so we can make sure they are tolerating medications well, but after that time

we would recommend slowly introducing one of the lower sodium diets on the HeartSmart list (25% of the new diet and 75% old diet for 2-3 days, then 50:50, etc.). Hopefully you can find a diet on the list that B6 likes to eat. Alternatively, you can research the amount of sodium in your dog's current diet to ensure that the sodium content is similar to those on the list. The HeartSmart web site also has some information on supplements such as fish oil, taurine, and other supplements that you might have questions about (<http://vet.tufts.edu/heartsmart/diet/>).

- o The FDA is currently investigating an apparent association between diet and a type of heart disease called dilated cardiomyopathy. The exact cause is still unclear, but it appears to be associated with boutique diets and those containing exotic ingredient or are grain-free. Therefore, we are currently recommending that dogs do not eat these types of diets.
- o We recommend switching B6 to commercial diet made by a well-established company that is not grain-free and does not contain any exotic ingredients, such as kangaroo, duck, lamb, venison, lentils, peas, beans, buffalo, tapioca, barley, and chickpeas.
- o The FDA issued a statement regarding this issue (<https://www.fda.gov/AnimalVeterinary/NewsEvents/CVMUpdates/ucm613305.htm>) and a recent article published by Dr. Lisa Freeman on the Cummings School's Petfoodology blog can further explain these findings (<http://vetnutrition.tufts.edu/2018/06/a-broken-heart-risk-of-heart-disease-in-boutique-or-grain-free-diets-and-exotic-ingredients/>).
- o Our nutritionists have compiled a list of dog foods that are good options for dogs with heart disease.

Dry Food Options:

Royal Canin Early Cardiac (veterinary diet)

Royal Canin Boster

Purina Pro Plan Adult Weight Management

Purina Pro Plan Bright Mind Adult Small Breed Formula

Canned Food Options:

Hill's Science Diet Adult 1-6 Healthy Cuisine Roasted Chicken, Carrot, and Spinach Stew

Royal Canin Mature 8+

If your dog has special nutritional needs or requires a homecooked diet, we recommend you schedule an appointment with our nutritionists (508-887-4696).

Exercise Recommendations:

For the first 7 to 10 days after starting medications for heart failure we recommend very limited activity. Leash walk only is ideal, and short walks to start. Once heart failure is better controlled then slightly longer walks are acceptable. If B6 is lagging behind or needs to stop then this was too long a walk and shorter walks are advised. High energy activities (repetitive ball chasing, running fast off a leash) are generally not advised at this stage of heart failure.

Recheck Visits: A recheck visit is scheduled for B6 at April 30th at noon. At this visit we will want to recheck B6 breathing effort and heart function, do a blood test to recheck kidney values, and recheck an ECG. A recheck echocardiogram is recommended in 3 months. Your other dog, B6 should get a blood test at your local veterinarian's office to check for levels of NT-proBNP. This is a protein that is released by the heart when it is stretched. If this value is normal, there is a low chance that she has a cardiac disease. However, if this value is at least moderately elevated, we might like to take a look at her. Please send us the result when you receive it.

Thank you for entrusting us with B6 care. Please contact our Cardiology liaison at (508)-887-4696 or email us at cardiovet@tufts.edu for scheduling and non-emergent questions or concerns.

Please visit our HeartSmart website for more information

<http://vet.tufts.edu/heartsmart/>

Prescription Refill Disclaimer:

For the safety and well-being of our patients, your pet must have had an examination by one of our veterinarians within the past year in order to obtain prescription medications.

Ordering Food:

Please check with your primary veterinarian to purchase the recommended diet(s). If you wish to purchase your food from us,

please call 7-10 days in advance (508-887-4629) to ensure the food is in stock. Alternatively, veterinary diets can be ordered from online retailers with a prescription/veterinary approval.

Clinical Trials:

Clinical trials are studies in which our veterinary doctors work with you and your pet to investigate a specific disease process or a promising new test or treatment. Please see our website: vet.tufts.edu/cvmc/clinical-studies

Case: B6

Owner: B6

Discharge Instructions

Cummings Veterinary Medical Center

AT TUFTS UNIVERSITY

Cardiology Liaison: 508-887-4696

B6

Patient ID: **B6**

B6 Canine
Years Old Male (Neutered) Golden Retriever
Gold

Cardiology Appointment Report ENROLLED IN DCM DIET STUDY

Date: 4/17/2019

Attending Cardiologist:

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC (primary)

B6

Cardiology Resident:

B6

Cardiology Technician:

B6

Presenting Complaint:

Presented to rDVM for cough for a month. Went to two vets yesterday. Suspicion of pericardial effusion vs DCM. Took radiographs and showed enlarged heart. Started **B6** yesterday.

Concurrent Diseases:

Pretty healthy dog. Occasional vomiting early on in life. Seasonal allergies

General Medical History:

Over last month has been slowing down. Eating less. Does not want to go upstairs with family.

Diet and Supplements:

Blue buffalo limited ingredient for about a year. Blue buffalo for first couple years of his life and started vomiting then switched to grain free. Switched to Blue Buffalo Chicken limited ingredient almost a year ago.

Cardiovascular History:

Prior CHF diagnosis?	NO
Prior heart murmur?	YES
Prior ATE?	NO
Prior arrhythmia?	NO
Monitoring respiratory rate and effort at home?	NO
Cough?	YES

Shortness of breath or difficulty breathing?

Maybe (panting has increased)

Syncope or collapse?

NO

Sudden onset lameness?

NO

Exercise intolerance?

NO

Current Medications Pertinent to CV System:

Heartgard chew

Flea and tick is seasonal

Pimobendan 10mg PO BID

Cardiac Physical Examination:

B6

Muscle condition:

Normal

Mild muscle loss

Moderate cachexia

Marked cachexia

Cardiovascular Physical Exam:

Murmur Grade:

None

I/VI

II/VI

III/VI

IV/VI

V/VI

VI/VI

Murmur location/description: Left apical murmur

Jugular vein:

Bottom 1/3 of the neck

Middle 1/3 of the neck

1/2 way up the neck

Top 2/3 of the neck

Arterial pulses:

Weak

Fair

Good

Strong

Bounding

Pulse deficits

Pulsus paradoxus

Other:

Arrhythmia:

None

Sinus arrhythmia

Premature beats

Bradycardia

Tachycardia

Gallop:

Yes

No

Intermittent

Pronounced

Other:

Pulmonary assessments:

Eupneic to

Mild dyspnea slightly blue hue to the

Pulmonary crackles

Wheezes

- tongue
- Marked dyspnea
- Normal *BY* sounds

- Upper airway stridor

Abdominal exam:

- Normal
- Hepatomegaly
- Abdominal distension

- Mild ascites
- Marked ascites

Problems:

Cardiac murmur, arrhythmia, cough, possible DCM vs pericardial disease

Diagnostic plan:

- Echocardiogram
- Chemistry profile
- ECG
- Renal profile
- Blood pressure

- Dialysis profile
- Thoracic radiographs
- NT-proBNP
- Troponin I
- Other tests:

B6

Mitral inflow:

- Summated
- Normal
- Delayed relaxation

- Pseudonormal
- Restrictive

B6

Interpretation: predominant sinus rhythm with frequent and short episodes of SVT. Occasional monomorphic ventricular bigeminy and occasional isolated LV origin VPCs.

Radiographic findings:

None are available for review at the time of the cardiology exam. Some recent films were taken and had been requested.

Subsequently available lateral radiograph shows marked cardiomegaly with some pulmonary vein distension and likely mild IS pattern that could be mild pulmonary edema.

Assessment and recommendations:

Advanced DMVD with myocardial failure. Large breed dogs are more predisposed to have worsening contractile function when affected by DMVD. However, there may also be a component of either DCM or diet-induced cardiomyopathy, so at this point it is unclear which would be the underlying cause of the systolic dysfunction. We believe that B6 is in mild CHF, thus recommend B6 every 12-24h - depending on clinical signs such as cough, respiratory rate and effort) and B6

B6 BID.

Recommend switch diet to one of the diets listed in the discharge instruction; check with Dr. Freeman if the dog will not eat any of these. As some Golden Retrievers with diet-induced cardiomyopathy are taurine deficient and may respond to Taurine supplementation, (750 to 1000mg BID) Taurine should be started until have the levels results back. Recommend recheck blood work and ECG in 2 weeks. The arrhythmia might not be severe enough to require specific antiarrhythmic treatment today, but it is close, and the dog may be at risk of sudden death. If the arrhythmia is worse then we might start B6

Final Diagnosis:

- DMVD with severe LA enlargement;
- Decreased contractile function - r/o secondary to advanced DMVD vs. concomitant DCM vs. component of diet-induced DCM.

Heart Failure Classification Score:

ISACHC Classification:

- Ia
- Ib
- II
- IIIa
- IIIb

ACVIM Classification:

- A
- B1
- B2
- C
- D

M-Mode

IVSd	B6	cm
LVIDd		cm
LVPWd		cm
IVSs		cm
LVIDs		cm
LVPWs		cm
EDV(Teich)		ml
ESV(Teich)		ml
EF(Teich)		%
%FS		%

SV(Teich)
Max LA
TAPSE
EPSS

B6

ml
cm
cm
cm

M-Mode Normalized

IVSdN
LVIDdN
LVPWdN
IVSsN
LVIDsN
LVPWsN

B6

(0.290 - 0.520)
(1.350 - 1.730) !
(0.330 - 0.530)
(0.430 - 0.710) !
(0.790 - 1.140) !
(0.530 - 0.780)

2D

SA LA
Ao Diam
SA LA / Ao Diam
IVSd
LVIDd
LVPWd
EDV(Teich)
IVSs
LVIDs
LVPWs
ESV(Teich)
EF(Teich)
%FS
SV(Teich)
LV Major
LV Minor
Sphericity Index
LVld A4C
LVEDV MOD A4C
LVls A4C
LVESV MOD A4C
LVEF MOD A4C
SV MOD A4C
R-R
HR

B6

cm
cm

cm
cm
cm
ml
cm
cm
cm
ml
%
%
ml
cm
cm

cm
ml
cm
ml
%
ml
ms
BPM

Doppler

MR Vmax
MR maxPG
MV E Vel
MV DecT
MV Dec Slope
MV A Vel
MV E/A Ratio
E'
E/E'

B6

m/s
mmHg
m/s
ms
m/s
m/s

m/s

A'
S'
AV Vmax
AV maxPG
PV Vmax
PV maxPG
PRend Vmax
PRend PG
TR Vmax
TR maxPG

B6

m/s
m/s
m/s
mmHg
m/s
mmHg
m/s
mmHg
m/s
mmHg

Discharge Instructions
Cardiology Technician Appointment - ENROLLED IN DCM DIET STUDY

Patient

Name: B6

Species: Canine

Gold Male (Neutered) Golden Retriever

Birthdate: B6

Owner

Name: B6

Address: B6

Patient ID: B6

Attending Cardiologist:

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

Cardiology Resident:

B6

Cardiology Technician:

B6

Discharge Date: B6

Clinical Findings:

B6 came in today to recheck bloodwork and an ECG. His bloodwork looked great and seems to be tolerating the medications well. The ECG still showed arrhythmia (VPCs). We discussed a few options of the next steps: 1) Continue to monitor 2) Do a 24-hour holter monitor 3) Purchase the Kardia ECG and send us at home ECG readings 4) start an antiarrhythmic.

At this time, it was decided to purchase the Alvecor/Kardia device. We went over the device and how to use it in the room. There are also directions attached to the discharges. I will send the readings to Dr Rush for review when he is back next week and if he feels an additional medication is needed, then i will call or email you with what he recommends.

Monitoring at home:

We would like you to monitor B6 breathing rate and effort at home, ideally during sleep or at a time of rest. The doses of drugs will be adjusted based on the breathing rate and effort. In general, most dogs with heart failure that is well controlled have a breathing rate at rest of less than 35 breaths per minute. In addition, the breathing effort, noted by the amount of belly wall motion used for each breath, is fairly minimal if heart failure is controlled. An increase in breathing rate or effort will usually mean that you should give an extra dose of B6. If difficulty breathing is not improved within 30-60 minutes after giving B6 then we recommend that a recheck exam be scheduled and/or that B6 be evaluated by an emergency clinic. There are instructions for monitoring breathing, and a form to help keep track of breathing rate and drug doses, on the Tufts HeartSmart web site (<http://vet.tufts.edu/heartsmart/at-home-monitoring/>).

We also want you to watch for weakness or collapse, a reduction in appetite, worsening cough, or distention of the belly as these findings indicate that we should do a recheck examination.

If you notice an episode of collapse, it is okay to help the dog get back up; however, most dogs will get up on their own in about 20 minutes. If an episode of collapse occurs, we would like to know about it right away.

Medications:

B6

Recheck Visits:

A recheck has been scheduled for

Thursday, July 18th at 1:00pm with Dr. John Rush

Thank you for entrusting us with **B6** care. Please contact our Cardiology liaison at (508)-887-4696 or email us at cardiovet@tufts.edu for scheduling and non-emergent questions or concerns.

B6 was such a good boy today.

Kind Regards

B6 CVT, VTS (Cardiology)

Please visit our HeartSmart website for more information

<http://vet.tufts.edu/heartsmart/>

Prescription Refill Disclaimer:

For the safety and well-being of our patients, your pet must have had an examination by one of our veterinarians within the past year in order to obtain prescription medications.

Ordering Food:

Please check with your primary veterinarian to purchase the recommended diet(s). If you wish to purchase your food from us, please call 7-10 days in advance (508-887-4629) to ensure the food is in stock. Alternatively, veterinary diets can be ordered from online retailers with a prescription/veterinary approval.

Clinical Trials:

Clinical trials are studies in which our veterinary doctors work with you and your pet to investigate a specific disease process or a promising new test or treatment. Please see our website: vet.tufts.edu/cvmc/clinical-studies

Case: **B6**

Owner: **B6**

Discharge Instructions

Client:
Patient:

B6

ECG from cardio

B6

4/30/2019 11:53:50 AM

Tufts University
Tufts Cummings School of Vet Med
Cardiology

B6

Client:
Patient:

B6

ECG from cardio

B6

4/30/2019 11:54:19 AM

Tufts University
Tufts Cummings School of Vet Med
Cardiology

B6

Client:
Patient:

B6

ECG from cardio

B6

4/30/2019 11:54:41 AM

Tufts University
Tufts Cummings School of Vet Med
Cardiology

12-Lead: Standard Placement

B6

Client:
Patient:

B6

ECG from cardio

B6

4/30/2019 11:55:39 AM

Tufts University
Tufts Cummings School of Vet Med
Cardiology

12-Lead Standard Placement

B6

Client: **B6**
Patient:

ECG from cardio

B6

4/30/2019 11:58:37 AM

Tufts University
Tufts Cummings School of Vet Med
Cardiology

B6

Client:
Patient:

B6

ECG from cardio

B6

4/30/2019 12:00:51 PM

Tufts University
Tufts Cummings School of Vet Med
Cardiology

12 Lead: Standard Placement

B6

Discharge Instructions

Patient

Name: B6

Species: Canine

Mahogany Male (Neutered) Pit Bull

Birthdate: B6

Owner

Name: B6

Address: B6

Patient ID: B6

Attending Cardiologist:

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

Cardiology Resident:

B6

Cardiology Technician:

B6

Student: B6 V19

Admit Date: 4/26/2019 2:17:55 PM

Discharge Date: 4/26/2019

Diagnoses: Dilated cardiomyopathy (DCM) with history of congestive heart failure

Case summary:

B6 was diagnosed with a heart muscle disease called dilated cardiomyopathy (DCM) in March. He was started on several cardiac medications at that time as well as a change in diet since he had been on a grain-free diet. Since then, he has shown improvement in his appetite and weight; however, he is still coughing and experiencing some exercise intolerance. On physical examination today, he is very bright and alert. We could hear a small Grade II/VI heart murmur that was noted previously.

We performed an echocardiogram (ultrasound of the heart) which confirmed B6 still has DCM. This disease is characterized by thinning of the walls of the heart, reduced cardiac pump function, and enlargement of the upper chambers of the heart. B6 has a leak at his mitral valve (valve between his left atrium and ventricle) which is the cause of his murmur. His mitral valve is slightly thickened as well so he could also have a component of a congenital mitral valve disease. The medications he is currently on are the same medications we would be using to treat any mitral valve disease. An ECG was performed to evaluate his heart rhythm which showed normal rhythm today. We also took chest x-rays to determine if he still has evidence of fluid in his lungs that could be contributing to his cough. His x-rays are improved compared to those taken previously by his primary care veterinarian but his lungs still have residual fluid. Because of this, we made adjustments to his medications as detailed below. Finally, we also collected blood to ensure his kidneys are tolerating his cardiac medications and for cardiac biomarkers useful for monitoring his disease progression and for the research study. We will call you with the results of this bloodwork.

Monitoring at home:

- We would like you to monitor your dog's breathing rate and effort at home, ideally during sleep or at a time of rest. The doses of drugs will be adjusted based on the breathing rate and effort.
- In general, most dogs with heart failure that is well controlled have a breathing rate at rest of less than 35 to 40 breaths per minute. In addition, the breathing effort, noted by the amount of belly wall motion used for each breath, is fairly minimal if heart failure is controlled.
- An increase in breathing rate or effort will usually mean that you should give an extra dose of **B6** if difficulty breathing is not improved by within 30-60 minutes after giving extra furosemide then we recommend that a recheck exam be scheduled and/or that your dog be evaluated by an emergency clinic.
- There are instructions for monitoring breathing, and a form to help keep track of breathing rate and drug doses, on the Tufts HeartSmart web site (<http://vet.tufts.edu/heartsmart/at-home-monitoring/>).
- We also want you to watch for weakness or collapse, a reduction in appetite, worsening cough, or distention of the belly as these findings indicate that we should do a recheck examination.
- If you have any concerns, please call or have your dog evaluated by a veterinarian. Our emergency clinic is open 24 hours/day.

Recommended Medications:

B6

Diet suggestions:

Dogs with heart failure accumulate more fluid in their body if they eat large amounts of sodium (salt). Sodium can be found in all foods, but some foods are lower in sodium than others. Many pet treats, people foods, and supplements used to give pills often have more sodium than is desirable - a sheet that has suggestions for low sodium treats can be found on the HeartSmart web site (<http://vet.tufts.edu/heartsmart/diet/>). Unfortunately, the pigs ears and pupperoni treats are high in sodium so should be avoided.

Your dog's usual diet may also have more sodium than recommended - we want him/her to continue to eat his/her normal diet for the first 7 to 14 days so we can make sure he is tolerating medications well, but after that time we would recommend slowly introducing one of the lower sodium diets on the HeartSmart list (25% of the new diet and 75% old diet for 2-3 days, then 50/50, etc.). Hopefully you can find a diet on the list that your dog likes to eat. Alternatively, if you are attached to the current diet you can research the amount of sodium in the diet to ensure that the sodium content is similar to those on the list.

- The FDA is currently investigating an apparent association between diet and a type of heart disease called dilated cardiomyopathy. The exact cause is still unclear, but it appears to be associated with boutique diets and those

containing exotic ingredient or are grain-free. Therefore, we are currently recommending that dogs do not eat these types of diets.

- We recommend switching **B6** to commercial diet made by a well-established company that is not grain-free and does not contain any exotic ingredients, such as kangaroo, duck, lamb, venison, lentils, peas, beans, buffalo, tapioca, barley, and chickpeas.
- The FDA issued a statement regarding this issue (<https://www.fda.gov/AnimalVeterinary/NewsEvents/CVMUpdates/uom613305.htm>) and a recent article published by Dr. Lisa Freeman on the Cummings School's Pet Foodology blog can further explain these findings (<http://vetnutrition.tufts.edu/2018/06/a-broken-heart-risk-of-heart-disease-in-boutique-or-grain-free-diets-and-exotic-ingredients/>).
- Our nutritionists have compiled a list of dog foods that are good options for dogs with heart disease.

Dry Food Options:

Royal Canin Early Cardiac (veterinary diet)

Royal Canin Boxer

Purina Pro Plan Adult Weight Management

Purina Pro Plan Bright Mind Adult Small Breed Formula

Canned Food Options:

Hill's Science Diet Adult 1-6 Healthy Cuisine Roasted Chicken, Carrot, and Spinach Stew

Royal Canin Mature 8+

We think Royal Canin Boxer or the Royal Canin Early Cardiac diets would be good choices for Dexter. We have sent you home with a sample of the Royal Canin Boxer diet. If your dog has special nutritional needs or requires a homecooked diet, we recommend you schedule an appointment with our nutritionists (508-887-4696).

Exercise Recommendations:

For the first 7 to 10 days after starting medications for heart failure we recommend very limited activity. Leash walking only is ideal, and short walks to start. Once the heart failure is better controlled, then slightly longer walks are acceptable. However, if you find that **B6** is lagging behind or needs to stop on a walk then this was too long a walk and shorter walks are advised in the future. Repetitive or strenuous high energy activities (repetitive ball chasing, running fast off-leash, etc.) are generally not advised at this stage of heart failure.

Recheck Visits:

A recheck visit is scheduled for Friday, May 3rd at 11:00 AM to recheck his bloodwork to see if he is tolerating the changes to his medications. Additionally, recheck visits at 3 months and 6 months are needed for monitoring and would be covered by the DCM study.

Thank you for entrusting us with **B6** care; he is a very sweet boy! Please contact our Cardiology liaison at (508)-887-4696 or email us at cardiovet@tufts.edu for scheduling and non-emergent questions or concerns.

Please visit our HeartSmart website for more information

<http://vet.tufts.edu/heartsmart/>

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For the safety and well-being of our patients, your pet must have had an examination by one of our veterinarians within the past year in order to obtain prescription medications.

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Clinical trials are studies in which our veterinary doctors work with you and your pet to investigate a specific disease process or a promising new test or treatment. Please see our website: vet.tufts.edu/cvmc/clinical-studies

Case: **B6**

Owner: **B6**

Discharge Instructions

Nutritional Tips for Pets with Heart Disease

Low sodium, high quality pet treats

Notes:

1. Most other dog treats are high in sodium.
2. If your pet has other medical conditions, these treats may not be appropriate. Talk to your veterinarian if you have questions or make an appointment with the Nutrition Service.

Product	Calories per treat
Dogs	
Hill's Science Diet Baked Light Biscuits with Real Chicken Small Dog Treat	8
Hill's Science Diet Baked Light Biscuits with Real Chicken Medium Dog Treat	34
Hill's Science Diet Soft Savories Peanut Butter & Banana, Beef & Cheddar, or Chicken & Yogurt Dog Treat	25-27, depending on flavor
Hill's Ideal Balance Soft-Baked Naturals with Chicken & Carrots, Duck & Pumpkin, or Beef & Sweet Potato Dog Treat	12-13, depending on flavor
Purina Beyond Natural Salmon Dog Biscuit Treat with Oats or Chicken & Barley	27-29, depending on flavor
Purina Alpo Variety Snaps Little Bites (beef, chicken, liver, lamb or beef, bacon, cheese, peanut butter)	16
Purina Alpo Variety Snaps Big Bites (beef, chicken, liver, lamb)	58
Royal Canin Original Canine treat	5
Cats	
Royal Canin Original Feline treat	2
Fancy Feast Duos Natural Rotisserie Chicken Cat treat	2
Fancy Feast Duos Tuna with Accents of Parsley Cat treat	2

Taste enhancers to can make your pet's food tastier to increase food intake

Safe and effective appetite stimulants are now available for dogs and cats. Please talk to your veterinarian if your pet is not eating well, not eating ideal foods, or is losing weight.

Notes:

1. All foods in this list should be prepared without salt
2. These taste enhancers should be added in small amounts. If your pet eats too much of them, they will unbalance the diet and increase your pet's risk for nutritional deficiencies

Dogs

- ♥ Honey or maple syrup
- ♥ Homemade chicken, beef, or fish broth (made without salt; avoid all deli meats and rotisserie chicken). Avoid store bought broths because even the low sodium brands are too high in sodium.
- ♥ Sugar (brown or white) – Domino pourable light brown sugar is a good option
- ♥ Vanilla or fruit yogurt – One option that dogs seem to like is Yoplait Custard Yogurt (caramel or vanilla flavors). If you try other brands, just be sure the sodium is less than 100 mg per 100 calories (the Yoplait is 95 mg per 170 calories which comes out to 56 mg sodium per 100 calories). Also avoid yogurts with artificial sweeteners.
- ♥ Maple syrup. Low salt brands include Log Cabin All Natural, Maple Grove Farm 100% pure maple syrup, or Stop and Shop Original Syrup
- ♥ Applesauce (be sure they have less than 50 mg sodium per serving)
- ♥ Ketchup (no salt added). Examples include Hunts or Heinz no salt added
- ♥ Pasta sauce (no salt added). Examples: Francesco Rinaldi no salt added or Enrico's no salt added)
- ♥ Frosted Mini Wheats Original – these can be crumbled on his food
- ♥ Lean meats, cooked (chicken, turkey, beef, or fish) – not deli/sandwich meats/cold cuts, rotisserie chicken, and any canned fish or meat
- ♥ Eggs, cooked



Dogs (continued)

- ♥ Homemade chicken, beef, or fish broth (even low sodium store-bought broths are too high in sodium). Avoid all canned soups unless labeled as no salt added
- ♥ Low-salt breakfast cereal - the label should read, "very low sodium food" or contain less than 20 mg sodium per serving. A good option is Frosted Mini Wheats Original or Little Bites Original
- ♥ Fresh vegetables/fruit. Examples include carrots, green beans, apple, orange, banana (avoid grapes, raisins, onions, garlic)
- ♥ Low sodium canned dog foods

Cats

- ♥ Lean meats, cooked (chicken, turkey, beef, or fish) – not sandwich meats/cold cuts, canned tuna, or rotisserie chicken
- ♥ Eggs, cooked
- ♥ Homemade chicken, beef, or fish broth (even low sodium store-bought broths are too high in sodium)
- ♥ Low sodium canned cat foods



Foods to avoid

- ♥ Fatty foods (meat trimmings, cream, ice cream)
- ♥ Baby food
- ♥ Pickled foods
- ♥ Bread
- ♥ Pizza
- ♥ Condiments (ketchup, soy sauce, barbecue sauce, etc – unless they are unsalted or no salt added)
- ♥ Sandwich meats/cold cuts (ham, corned beef, salami, sausages, bacon, hot dogs)
- ♥ Rotisserie chicken
- ♥ Most cheeses, including "squirtable" cheeses
- ♥ Processed foods (such as, potato mixes, rice mixes, macaroni and cheese)
- ♥ Canned vegetables (unless "no salt added")
- ♥ Potato chips, packaged popcorn, crackers, and other snack foods
- ♥ Soups (unless homemade without salt)
- ♥ Most commercial pet treats

Tips for administering medications

Foods commonly used to administer your pet's pills can provide a large amount of additional salt to your pet's diet. Preferable ways to give medications include:

- ♥ Have one of our staff show you how to give medications without using food
- ♥ Insert medications into one of the following foods:

Dogs or cats

- Low-sodium canned pet food
- Home-cooked meat such as chicken or hamburger (made without salt); not lunch meats
- Whipped cream (Reddi Wip)
- Marshmallows
- Greenies Pill Pockets
 - Dog chicken, hickory smoke, or peanut butter flavors; cat chicken or salmon flavor
 - Avoid grain-free duck and pea which is high in sodium
 - Try to use the smallest size possible (ideally, the cat sized Pill Pockets, even for dogs) and as few as possible to avoid excessive salt.
 - Caution: Not all similar products from other companies are low in sodium .

Dogs

- Soft fruit, such as banana, orange, melon, or strawberries (avoid grapes)
- Peanut butter (only if labeled as "no salt added") – examples include Smucker's Natural Creamy Peanut Butter with No Salt Added or Teddie All Natural Smooth Unsalted Butter
- Frosting (should be less than 75 mg/serving and contain no artificial sweeteners or xylitol). Examples include Duncan Hines whipped vanilla frosting, Betty Crocker whipped vanilla frosting)

You may find our Petfoodology post called, "Pill-popping pets" helpful for additional ideas:

http://vetnutrition.tufts.edu/2018/09/foods_for_giving_pills/

B6

Patient ID: **B6**
B6 Canine
B6 Years Old Male (Neutered) Pit Bull
Mahogany

Cardiology Appointment Report
DCM STUDY

Date: 4/26/2019

Attending Cardiologist:

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

Cardiology Resident:

B6

Cardiology Technician:

B6

Student: **B6** V19

Presenting Complaint: DCM

Concurrent Diseases:

None

General Medical History:

Diagnosed with DCM in March.

In March, owners noticed he was coughing alot and had labored breathing. rDVM did x-ray and showed enlarged heart. Also treated for potential kennel cough at that time. Referred to **B6** (emergency room) where they did cardiac workup which showed DCML. He was immediately started on cardiac medications and diet change. Since starting meds and changing diet, still coughing but gaining weight. Coughing in the middle of the night, after exercise/excitement; roughly 10 times per day. Owner trying to limit exercise, but **B6** has always had good energy. After exercise sometimes seems to have trouble catching his breath. Owner has not been counting RR at home. Appetite has been decreased prior to DCM diagnosis but has improved since starting meds.

Diet and Supplements:

Previous diet: Venison and red lentils (Pure Vida), canned food- natural balance venice and sweet potatoe; treats- natural balance venison and fish

Current Diet: Nutri Source Chicken and Rice (dry and canned), treats, cooked chicken.

Cardiovascular History:

Prior CHF diagnosis? Yes

Prior heart murmur? Y Grade II/VI left sided

Prior ATE? N

Prior arrhythmia?

Monitoring respiratory rate and effort at home? Effort increased during exercise, not monitoring rate

Cough? Yes

Shortness of breath or difficulty breathing? After exercise

Syncope or collapse? No

Sudden onset lameness? No

Exercise intolerance? Tires easier because of cough

Current Medications Pertinent to CV System:

B6

Cardiac Physical Examination:

B6

Muscle condition:

- | | |
|--|--|
| <input checked="" type="checkbox"/> Normal | <input type="checkbox"/> Moderate cachexia |
| <input type="checkbox"/> Mild muscle loss | <input type="checkbox"/> Marked cachexia |

Cardiovascular Physical Exam:

Murmur Grade:

- | | |
|---|--------------------------------|
| <input type="checkbox"/> None | <input type="checkbox"/> IV/VI |
| <input type="checkbox"/> I/VI | <input type="checkbox"/> V/VI |
| <input checked="" type="checkbox"/> II/VI | <input type="checkbox"/> VI/VI |
| <input type="checkbox"/> III/VI | |

Murmur location/description: focal left apical systolic

Jugular vein:

- Bottom 1/3 of the neck
- Middle 1/3 of the neck

- 1/2 way up the neck
- Top 2/3 of the neck

Arterial pulses:

- Weak
- Fair
- Good
- Strong

- Bounding
- Pulse deficits
- Pulsus paradoxus
- Other:

Arrhythmia:

- None
- Sinus arrhythmia
- Premature beats

- Bradycardia
- Tachycardia

Gallop:

- Yes
- No
- Intermittent

- Pronounced
- Other:

Pulmonary assessments:

- Eupneic
- Mild dyspnea
- Marked dyspnea
- Normal BV sounds

- Pulmonary crackles
- Wheezes
- Upper airway stridor

Abdominal exam:

- Normal
- Hepatomegaly
- Abdominal distension

- Mild ascites
- Marked ascites

Problems and Differential Diagnoses:

History of DCM: R/O- diet-associated vs. taurine vs. primary

Cough: R/O- secondary to DCM vs. less likely infectious

Diagnostic plan:

- Echocardiogram
- Chemistry profile
- ECG
- Renal profile
- Blood pressure

- Dialysis profile
- +/- Thoracic radiographs
- NT-proBNP
- Troponin I
- Other tests: DCM Study- taurine

Echocardiogram Findings:

B6

Mitral inflow:

- Summated
- Normal

- Pseudonormal
- Restrictive

Delayed relaxation

ECG findings:

sinus arrhythmia

Radiographic findings:

Enlarged cardiac silhouette. The amount of interstitial pattern consistent with pulmonary edema is much improved from rDVM rads. However, there is still residual perihilar interstitial pattern.

Assessment and recommendations:

The patient is still in mild CHF based on radiographs. We are therefore going to increase his Recheck renal values in 1-2 weeks. If renal values are normal at that time, we will increase to BID. Recheck echocardiogram in 3 months. Patient enrolled in the DCM diet study. We recommend switching the patient to the RC Boxer diet.

Final Diagnosis:

DCM with LCHF. R/O diet-induced, primary, toxin +/- mitral valve dysplasia

Heart Failure Classification Score:

ISACHC Classification:

- Ia
- Ib
- II
- IIIa
- IIIb

ACVIM Classification:

- A
- B1
- B2
- C
- D

M-Mode

IVSd		cm
LVIDd		cm
LVPWd		cm
IVSs		cm
LVIDs		cm
LVPWs		cm
EDV(Teich)		ml
ESV(Teich)		ml
EF(Teich)		%
%FS		%
SV(Teich)		ml
Ao Diam		cm
LA Diam		cm
LA/Ao		
Max LA		cm
TAPSE		cm
EPSS		cm

M-Mode Normalized

IVSdN

LVIDdN

LVPWdN

IVSsN

LVIDsN

LVPWsN

Ao Diam N

LA Diam N

B6

(0.290 - 0.520)

(1.350 - 1.730) !

(0.330 - 0.530)

(0.430 - 0.710)

(0.790 - 1.140) !

(0.530 - 0.780)

(0.680 - 0.890) !

(0.640 - 0.900) !

2D

SA LA

Ao Diam

SA LA / Ao Diam

IVSd

LVIDd

LVPWd

EDV(Teich)

IVSs

LVIDs

LVPWs

ESV(Teich)

EF(Teich)

%FS

SV(Teich)

LVLd A4C

LVEDV MOD A4C

LVLs A4C

LVESV MOD A4C

LVEF MOD A4C

SV MOD A4C

B6

cm

cm

cm

cm

cm

ml

cm

cm

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ml

cm

ml

cm

ml

%

ml

Doppler

MR Vmax

MR maxPG

MV E Vel

MV DecT

MV Dec Slope

MV A Vel

MV E/A Ratio

E'

E/E'

A'

S'

AV Vmax

AV maxPG

PV Vmax

PV maxPG

B6

m/s

mmHg

m/s

ms

m/s

m/s

m/s

m/s

m/s

m/s

mmHg

m/s

mmHg

B6

B6 Male (Neutered)
Canine Pit Bull Mahogany
Patient ID: **B6**

Outside Prescription Log

1. **B6**

2. Date:
Clinician:
Prescription:
Pharmacy sent to:
Completed by:
Origin of request:

3. Date:
Clinician:
Prescription:
Pharmacy sent to:
Completed by:
Origin of request:

4. Date:
Clinician:
Prescription:
Pharmacy sent to:
Completed by:
Origin of request:

5. Date:
Clinician:
Prescription:
Pharmacy sent to:
Completed by:
Origin of request:

6. Date:
Clinician:
Prescription:
Pharmacy sent to:
Completed by:
Origin of request:

7. Date:

Clinician:
Prescription:
Pharmacy sent to:
Completed by:
Origin of request:

8. Date:
Clinician:
Prescription:
Pharmacy sent to:
Completed by:
Origin of request:

9. Date:
Clinician:
Prescription:
Pharmacy sent to:
Completed by:
Origin of request:

10. Date:
Clinician:
Prescription:
Pharmacy sent to:
Completed by:
Origin of request:

Cummings
Veterinary Medical Center
AT TUFTS UNIVERSITY

Foster Hospital for Small Animals
55 Willard Street
North Grafton, MA 01536
Telephone (508) 839-5395
Fax (508) 839-7951
<http://vetmed.tufts.edu/>

B6

B6

Male (Neutered)

Canine Pit Bull Mahogany

B6

4/29/2019

Dear **B6**

Thank you for referring **B6** **with their pet** **B6**

If you have any questions, or concerns, please contact us at 508-887-4988.

Thank you,

B6

Client:

B6

Address:

All Medical Records

Patient: B6

Breed: Cocker Spaniel

DOB: B6

Species: Canine

Sex: Female
(Spayed)

Home Phone: B6

Work Phone: () -

Cell Phone: B6

Referring Information

B6

Client:

B6

Patient:

Initial Complaint:

Emergency

SOAP Text May 18 2019 12:21PM

B6

Subjective

NEW VISIT (ER)

Doctor: B6

Student: B6 20

Presenting complaint: B6 CHF

Referral visit? Y

Diagnostics completed prior to visit:

Chem/SDMA - all WNL

Radiograph - Severe cardiomegaly with dorsal displacement of the trachea and left mainstem bronchi compression.

Pulmonary vessels are increased in diameter and lung lobar veins are bigger than the arteries. There is patchy interstitial pattern in the perihilar area. Caudal liver lobes look enlarged.

HISTORY:

Signalment: 10 yo SF Cocker Spaniel

Current history: O noted that in August of 2018, O+P moved from B6 and into an apartment. At this time, O noted anxiety and a cough. O noted that vet in B6 mentioned P had a heart murmur, but O had not noticed a cough until August. O noted that P is on a medication for anxiety but could not remember which medication. O noted that the last 3 months, the cough has gotten a lot worse. It is a constant cough that happens every 1.5 hours and throughout

Client: **B6**
Patient: **B6**

the night. O has also noted that P has become exercise intolerant and cannot walk very far without becoming short of breath. O brought P to the RDVM yesterday, 05/17/19 and the vet noted that P is in CHF and has a very enlarged heart. RDVM started P on **B6** and referred P here for an echocardiogram. No S/V/D/PU/PD.

Prior medical history: none

Current medications: **B6**

Diet: Bill Jack Persnickety Dry BID

Vaccination status/flea & tick preventative use: UTD per O, f/t/hw prevention per O

Travel history: moved from **B6** August 2018

EXAM:

B6

C/V: Grade IV/VI heart murmur auscultated. Arrhythmia appreciated. Fair femoral pulses.

B6

ASSESSMENT:

A1: Grade IV/VI heart murmur with arrhythmia and increased respiratory effort - CHF (due to advanced DMVD with active left sided CHF, moderate PHTN)

A2: Frequent ventricular and supraventricular arrhythmias

A3: **B6**
A4: **B6**

PLAN:

P1: Cardio consult

Advanced DMVD with active L- CHF

Moderate PHTN

Frequent ventricular and supraventricular arrhythmias

P2: **B6**
P3: **B6**
P4: **B6**

Client: **B6**
Patient: **B6**

B6

P5: iSTAT: **B6**

Client communication:

B6

Deposit & estimate status:

Resuscitation code (if admitting to ICU):

SOAP approved (DVM to sign): **B6**

Initial Complaint:

Recheck **B6** - consult thru ER (DMVD/DCM study?)

Disposition/Recommendations

Client:
Patient:

B6

Client: **B6**
 Patient: **B6**

Cummings
Veterinary Medical Center
 AT TUFTS UNIVERSITY

Foster Hospital for Small Animals

55 Willard Street
 North Grafton, MA 01536
 (508) 839-5395

Client: **B6**
 Veterinarian:
 Patient ID: **B6**
 Visit ID:

Patient:	B6
Species:	Canine
Breed:	Cocker Spaniel
Sex:	Female (Spayed)
Age:	B6 Years Old

Lab Results Report

None 5/18/2019 12:44:43 PM Accession ID: **B6**

Test	Results	Reference Range	Units
AGAP (i-STAT)	B6	8 - 25	mmol/L
AGAP (i-STAT)		8 - 25	mmol/L
Hb		12 - 17	g/dL
Hb		12 - 17	g/dL
HCT		35 - 50	%
HCT		35 - 50	%
Creat		0.5 - 1.3	
Creat		0.5 - 1.3	
BUN		10 - 26	mg/dL
BUN		10 - 26	mg/dL
K+		3.4 - 4.9	mEq/L
Glucose (i-STAT)		60 - 115	mg/dL
Glucose (i-STAT)		60 - 115	mg/dL
iCa		1.12 - 1.4	mmol/L
TCO2		17 - 25	mmol/L
TCO2		17 - 25	mmol/L
iCa		1.12 - 1.4	mmol/L
iCa		1.12 - 1.4	mmol/L
Cl-		106 - 127	mEq/L
Cl-		106 - 127	mEq/L
K+	3.4 - 4.9	mEq/L	



Client: **B6**
 Patient: **B6**

K+		3.4 - 4.9	mEq/L
Na *	B6	142 - 150	mEq/L
Na *		142 - 150	mEq/L

None 5/18/2019 12:45:42 PM Accession ID: **B6**

Test	Results	Reference Range	Units
TS (FIISA)		0 - 0	g/dl
PCV **	B6	0 - 0	%
TS (FHSA)		0 - 0	g/dl

None 5/24/2019 3:29:26 PM Accession ID: **B6**

Test	Results	Reference Range	Units
GLUCOSE		67 - 135	mg/dL
UREA		8 - 30	mg/dL
CREATININE		0.6 - 2	mg/dL
PHOSPHORUS		2.6 - 7.2	mg/dL
CALCIUM2		9.4 - 11.3	mg/dL
MAGNESIUM 2+		1.8 - 3	mEq/L
T. PROTEIN		5.5 - 7.8	g/dL
ALBUMIN		2.8 - 4	g/dL
GLOBULINS		2.3 - 4.2	g/dL
A/G RATIO		0.7 - 1.6	
SODIUM		140 - 150	mEq/L
CHLORIDE		106 - 116	mEq/L
POTASSIUM	B6	3.7 - 5.4	mEq/L
tCO2 (BICARB)		14 - 28	mEq/L
AGAP		8 - 19	
NA/K		29 - 40	
T BILIRUBIN		0.1 - 0.3	mg/dL
ALK PHOS		12 - 127	U/L
GGT		0 - 10	U/L
ALT		14 - 86	U/L
AST		9 - 54	U/L
CK		22 - 422	U/L
CHOLESTEROL		82 - 355	mg/dL
TRIGLYCERIDES		30 - 338	mg/dl
AMYLASE		409 - 1250	U/L
OSMOLALITY (CALCULATED)		291 - 315	mmol/L
COMMENTS (CHEMISTRY)		0 - 0	

B6



Client: **B6**
Patient:

B6

Records

Patient History Report

Client: **B6** Patient: **B6**
Phone: **B6** Species: Canine Breed: Spaniel, Cocker
Address: **B6** Age: **B6** Sex: Spayed Female
Color: Black/Tan

Date	Type	Staff	History
------	------	-------	---------

5/18/2019	TC	B6	pc from owner - she is going to call Tufts and try to get in today - TENTATIVE
-----------	----	-----------	--

5/18/2019	TC	B6	P.C. lab results and recommendations - TENTATIVE Called B6 with Chem results (all wnl). She feels like B6 is doing better, advise continue B6 at present dose until evaluated by cardiologist. She will pursue echo at B6 where her children take their pets. I stressed need cardiologist and if they do not have one available within several days, she can contact us so we can get get info to a referral institution of her choice. B6 today, or B6 or Tufts next week.)
-----------	----	-----------	--

5/17/2019	C	B6	***** B6 Blank Document - FINAL 05/17/2019 - Check B6 Veterinarian: B6 DVM 5/17/2019 Patient Name: B6
-----------	---	-----------	---

Technician: **B6**

Reason for Visit: cough

12/10/2018	5/17/2019
10:39 AM	3:35 PM
Vital Sign	B6

B: Billing, C: Med note, CB: Call back, CK: Check-in, CM: Communications, D: Diagnosis, DH: Declined to history, E: Examination, ES: Estimates, I: Departing instr, L: Lab result, M: Image cases, P: Prescription, PA: PVL Accepted, PB: problems, PP: PVL Performed, PR: PVL Recommended, R: Correspondence, T: Images, TC: Tentative med note, V: Vital signs

B6

Page 1 of 4

Date: 5/18/2019 10:00 AM

Client: **B6**
Patient:

B6

Records

Patient History Report

Client: **B6**
Phone:
Address:
Patient: **B6**
Species: **Canine**
Age: **B6**
Color: **Black/Tan**
Breed: **Spaniel, Cocker**
Sex: **Spayed Female**

Date	Type	Staff	History
------	------	-------	---------

Weight	26 pounds	29 pounds
--------	-----------	-----------

O reports that **B6** has had a cough for about a month now. O says it sounds like a hacking cough. She has no contact with other dogs. O says that **B6** had told her that her heart murmur could cause a cough at her last visit. O says that her appetite is normal but that she does have slightly looser stools. O says that she is acting very lethargic. Temp 101.4.

Exam: Pigmentary keratitis ventral 1/3 cornea OD. Bilat mild ceruminous otitis. Moderate to severe P+C. Grade 3-4/6 cardiac murmur; some arrhythmias auscultated. Mild dyspnea; color and CRT wnl.

Lateral thorax: generalized cardiomyopathy, dorsal caudal increased interstitial pattern

A: Cough, long standing murmur, evidence of generalized heart enlargement and CHF

P: Discussed findings with owner. Emphasized seriousness of CHF and need for cardiac evaluation. Chem drawn; administered **B6**

Advise echo consult ASAP.

5/17/2019 TC **B6** **B6** Technician History: **TENTATIVE**
Technician: **B6**

Reason for Visit: cough

Vital Sign	12/10/2018	5/17/2019
	10:39 AM	3:35 PM
Weight	26 pounds	29 pounds

O reports that **B6** has had a cough for about a month now. O says it sounds like a hacking cough. She has no contact with other dogs. O says that **B6** had told her that her heart murmur could cause a cough at her last visit. O says that her appetite is normal but that she does have slightly looser stools. O says that she is acting very lethargic. Temp 101.4.

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B6

Page 2 of 4

Date: 5/18/2019 10:00 AM

Client: **B6**
Patient:

B6 Records

Patient History Report

Client: **B6** Patient: **B6**
Phone: **B6** Species: Canine Breed: Spaniel, Cocker
Address: **B6** Age: **B6** Sex: Spayed Female
Color: Black/Tan

Date Type Staff History

5/17/2019 L

B6

Chemistry results from IDEXX Reference Laboratory Requisition

ID:	Posted	Final
Test	Result	Reference Range
ALB	B6	2.7 - 3.9
ALKP		5 - 160
ALT		18 - 121
AMYL		337 - 1469
ANION GAP		11 - 26
AST		16 - 55
BICARB		13 - 27
BUN/UREA		9 - 31
Ca		8.4 - 11.8
Chloride		108 - 119
CHOL		131 - 345
CREA		0.5 - 1.5
DBIL		0.0 - 0.1
GGT		0 - 13
GLU		63 - 114
IBIL		0.0 - 0.2
LIPA		138 - 755
PHOS		2.5 - 6.1
Potassium		4.0 - 5.4
TBIL		0.0 - 0.3
TP	5.5 - 7.5	
Sodium	142 - 152	
A/G Ratio	0.7 - 1.5	
B/C Ratio		
Na/K Ratio	28 - 37	
GLOB	2.4 - 4.0	
CK	10 - 200	
SDMA	0 - 14	

Ascp: **B6**

RE: **B6** HEMOLYSIS INDEX N
Index of N, 1+, 2+ exhibits no significant effect on chemistry values.

RE: **B6** LIPEMIA INDEX N
Index of N, 1+, 2+ exhibits no significant effect on chemistry values.

BOTH SDMA AND CREATININE ARE WITHIN THE REFERENCE INTERVAL which indicates

B6

B: Billing, C: Med note, CB: Call back, CK: Check-in, CM: Communications, D: Diagnosis, DH: Declined to history, E: Examination, ES: Estimates, I: Departing instr, L: Lab result, M: Image cases, P: Prescription, PAPVL Accepted, PB: problems, PP: PVL Performed, PR: PVL Recommended, R: Correspondence, T: Images, TC: Tentative med note, V: Vital signs

B6

Page 3 of 4

Date: 5/18/2019 10:00 AM

Client: **B6**
Patient:

B6 Records

Patient History Report

Client:	B6	Patient:	B6	Breed:	Spaniel, Cocker
Phone:		Species:	Canine	Sex:	Spayed Female
Address:		Age:	B6	Color:	Black/Tan

Date	Type	Staff	History
------	------	-------	---------

B: Billing, C: Med note, CB: Call back, CK: Check-in, CM: Communications, D: Diagnosis, DH: Declined to history, E: Examination, ES: Estimate, I: Departing instr, L: Lab result, M: Image cases, P: Prescription, PA: PVL Accepted, PB: problems, PP: PVL Performed, PR: PVL Recommended, R: Correspondence, T: Images, TC: Tentative medl note, V: Vital signs

B6

Client: **B6**
Patient: **B6**

RDVM **B6** medical records 5/17/19-5/18/19

B6 Records

Patient History Report

Client: **B6**
Phone: **B6**
Address: **B6**

Patient: **B6**
Species: Canine
Age: **B6**
Color: Black/Tan

Breed: Spaniel, Cocker
Sex: Spayed Female

Date	Type	Staff	History
5/18/2019	TC	B6	pc from owner - she is going to call Tufts and try to get in today - TENTATIVE

5/18/2019 TC **B6** P.C. lab results and recommendations - TENTATIVE
Called **B6** with Chem results (all wnl). She feels like **B6** is doing better. Advise continue Eurosemide at present dose until evaluated by cardiologist. She will pursue echo at **B6** where her children take their pets. I stressed need cardiologist and if they do not have one available within several days she can contact us so we can get get info to a referral institution of her choice. (**B6** today, or **B6** or Tufts next week.)

5/17/2019 C **B6** ***** **B6** Blank Document - FINAL **B6** - Check cough
Veterinarian: **B6** DVM 5/17/2019
Patient Name: **B6**

Technician: **B6**

Reason for Visit: cough

Vital Sign: 12/10/2018 10:39 AM 5/17/2019 3:35 PM **B6**

B: Billing, C: Med note, CB: Call back, CK: Check-in, CM: Communications, D: Diagnosis, DH: Declined to history, E: Examination, ES: Estimates, I: Departing Instr, L: Lab result, M: Image cases, P: Prescription, PA: PVL Accepted, PB: problems, PP: PVL Performed, PR: PVL Recommended, R: Correspondence, T: Images, TC: Tentative med note, V: Vital signs

B6

Page 1 of 4

Date: 5/18/2019 10:00 AM

Client:
Patient:

B6

RDVM

B6

medical records 5/17/19-5/18/19

B6

Records

Patient History Report

Client:
Phone:
Address:

B6

Patient: **B6**
Species: **Canine**
Age: **B6**
Color: **Black/Tan**

Breed: **Spaniel, Cocker**
Sex: **Spayed Female**

Date	Type	Staff	History
	Weight	26 pounds	29 pounds
<p>O reports that B6 has had a cough for about a month now. O says it sounds like a hacking cough. She has no contact with other dogs. O says that B6 had told her that her heart murmur could cause a cough at her last visit. O says that her appetite is normal but that she does have slightly looser stools. O says that she is acting very lethargic. Temp 101.4</p> <p>Exam: Pigmentary keratitis ventral 1/3 cornea OD. Bilat mild ceruminous otitis. Moderate to severe P+C. Grade 3-4/6 cardiac murmur; some arrhythmias auscultated. Mild dypnea; color and CRT wnl. Lateral thorax: generalized cardiomyopathy, dorsal caudal increased interstitial pattern A: Cough, long standing murmur, evidence of generalized heart enlargement and CHF P: Discussed findings with owner. Emphasized seriousness of CHF and need for cardiac evaluation. Chem drawn: B6 Advise echo consult ASAP.</p>			
5/17/2019	TC	B6	B6 Technician History - TENTATIVE Technician: B6
Reason for Visit: cough			
	Vital Sign	12/10/2018 10:39 AM	5/17/2019 3:35 PM
	Weight	26 pounds	29 pounds

B: Billing, C: Med note, CB: Call back, CK: Check-in, CM: Communications, D: Diagnosis, DH: Declined to history, E: Examination, ES: Estimates, I: Departing instr, L: Lab result, M: Image cases, P: Prescription, PA: PVL Accepted, PB: problems, PP: PVL Performed, PR: PVL Recommended, R: Correspondence, T: Images, TC: Tentative med note, V: Vital signs

B6

Page 2 of 4

Date: 5/18/2019 10:00 AM

Client: **B6**
Patient:

RDVM **B6** medical records 5/17/19-5/18/19

B6 Records

Patient History Report

Client: **B6** Patient: **B6**
Phone: **B6** Species: Canine Breed: Spaniel, Cocker
Address: **B6** Age: **B6** Sex: Spayed Female
Color: Black/Tan

Date	Type	Staff	History
------	------	-------	---------

5/17/2019 L **B6** Chemistry Results from IDEXX Reference Laboratory Requisition

ID	Test	Result	Posted	Final	Reference Range
B6	ALB	B6			2.7 - 3.9
B6	ALKP	B6			5 - 160
B6	ALT	B6			18 - 121
B6	AMYL	B6			337 - 1469
B6	ANION GAP	B6			11 - 26
B6	AST	B6			16 - 55
B6	BICARB	B6			13 - 27
B6	BUN/UREA	B6			9 - 31
B6	Ca	B6			8.4 - 11.8
B6	Chloride	B6			108 - 119
B6	CHOL	B6			131 - 345
B6	CREA	B6			0.5 - 1.5
B6	DBIL	B6			0.0 - 0.1
B6	GGT	B6			0 - 13
B6	GLU	B6			63 - 114
B6	IBIL	B6			0.0 - 0.2
B6	LIPA	B6			138 - 755
B6	PHOS	B6			2.5 - 6.1
B6	Potassium	B6			4.0 - 5.4
B6	TBIL	B6			0.0 - 0.3
B6	TP	B6			5.5 - 7.5
B6	Sodium	B6			142 - 152
B6	A/G Ratio	B6			0.7 - 1.5
B6	B/C Ratio	B6			
B6	Na/K Ratio	B6			28 - 37
B6	GLOB	B6			2.4 - 4.0
B6	CK	B6			10 - 200
B6	SDMA	B6			0 - 14

Asc: **B6**
RE: **B6** HEMOLYSIS INDEX N
Index of N, 1+, 2+ exhibits no significant effect on chemistry values.
RE: **B6** LIPEMIA INDEX N
Index of N, 1+, 2+ exhibits no significant effect on chemistry values.

BOTH SDMA AND CREATININE ARE WITHIN THE REFERENCE INTERVAL which indicates

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Client: **B6**
Patient: **B6**

RDVM: **B6** medical records 5/17/19-5/18/19

B6 Records

Patient History Report

Client:	B6	Patient:	B6	Breed:	Spaniel, Cocker
Phone:	B6	Species:	Canine	Sex:	Spayed Female
Address:	B6	Age:	B6		
		Color:	Black/Tan		

Date	Type	Staff	History
------	------	-------	---------

B: Billing, C: Med note, CB: Call back, CK: Check-in, CM: Communications, D: Diagnosis, DH: Declined to history, E: Examination, ES: Estimates, I: Departing instr, L: Lab result, M: Image cases, P: Prescription, PA: PVL Accepted, PB: problems, PP: PVL Performed, PR: PVL Recommended, R: Correspondence, T: Images, TC: Tentative med. note, V: Vitals/signs

B6

Client: **B6**
Patient: **B6**

Chem 5/24/2019



Tufts Cummings School Of Veterinary Medicine

200 Westboro Road
North Grafton, MA 01536

DUPLICATE

Name/DOB:	B6	Sex:	SF	Provider:	B6
Patient ID:	B6	Age:	10	Order Location:	V320539: Investigation into
Phone number:		Species:	Canine	Sample ID:	1905240076
Collection Date:	5/24/2019 3:29 PM	Breed:	Cocker Spaniel		
Approval date:	5/24/2019 4:18 PM				

Research Chemistry Profile - Small Animal (Cobas)

		Ref. Range/Females
CSTCYR		
Glucose		67-135 mg/dL
Urea		8-30 mg/dL
Creatinine		0.6-2.0 mg/dL
Phosphorus		2.6-7.2 mg/dL
Calcium 2		9.4-11.3 mg/dL
Magnesium 2+		1.8-3.0 mEq/L
Total Protein		5.5-7.8 g/dL
Albumin		2.8-4.0 g/dL
Globulins		2.3-4.2 g/dL
A/G Ratio		0.7-1.6
Sodium		140-150 mEq/L
Chloride		106-116 mEq/L
Potassium		3.7-5.4 mEq/L
tCO2(Bicarb)	B6	14-28 mEq/L
AGAP		8.0-19.0
NA/K		29-40
Total Bilirubin		0.10-0.30 mg/dL
Alkaline Phosphatase		12-127 U/L
GGT		0-10 U/L
ALT		14-86 U/L
AST		9-54 U/L
Creatine Kinase		22-422 U/L
Cholesterol		82-355 mg/dL
Triglycerides		30-338 mg/dl
Amylase		409-1250 U/L
Osmolality (calculated)		291-315 mmol/L
Comments (Chemistry)	B6	

Sample ID: 1905240076/1
END OF REPORT (Final)

Reviewed by: _____

Client: **B6**
 Patient: **B6**

Diet Hx 5/24/2019

CARDIOLOGY DIET HISTORY FORM

Please answer the following questions about your pet

Pet's name: **B6** Owner's name: **B6** Today's date: 5-24-2019

1. How would you assess your pet's appetite? (mark the point on the line below that best represents your pet's appetite)

Example: **Poor** _____ | _____ **Excellent**
Poor _____ | _____ **Excellent**

2. Have you noticed a change in your pet's appetite over the last 1-2 weeks? (check all that apply)

Eats about the same amount as usual Eats less than usual Eats more than usual
 Seems to prefer different foods than usual Other _____

3. Over the last few weeks, has your pet (check one)
 Lost weight Gained weight Stayed about the same weight Don't know

1. Please list below ALL pet foods, people food, treats, snack, dental chews, rawhides, and any other food item that your pet currently eats and that you have fed in the last 2 years.

Please provide enough detail that we could go to the store and buy the exact same food - examples are shown in the table

Food (include specific product and flavor)	Form	Amount	How often?	Dates fed
Nutro Grain Free Chicken, Lentil, & Sweet Potato Adult	dry	1 1/2 cup	2x/day	Jan 2016-present
85% lean hamburger	microwaved	3 oz	1x/week	June -Aug 2016
Pupperoni original beef flavor	treat	1/2	1x/day	Sept 2016-present
Rawhide	treat	6 inch twist	1x/week	Dec 2018-present
CALL OF THE WILD / BLUE JAC	DRY	1/2 cup	2x/day	July 2018 - present
CHICKEN -	BAKED			
RICE				
MILK BOWE SOFT TREATS	TREAT	6	A DAY	

*Any additional diet information can be listed on the back of this sheet

2. Do you give any dietary supplements to your pet (for example: vitamins, glucosamine, fatty acids, or any other supplements)? Yes No If yes, please list which ones and give brands and amounts:

	Brand/Concentration	Amount per day
Taurine <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	_____	_____
Carnitine <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	_____	_____
Antioxidants <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	_____	_____
Multivitamin <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	_____	_____
Fish oil <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	_____	_____
Coenzyme Q10 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	_____	_____
Other (please list): Example: Vitamin C	Nature's Bounty	500 mg tablets - 1 per day
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

3. How do you administer pills to your pet?
 I do not give any medications
 I put them directly in my pet's mouth without food
 I put them in my pet's dog/cat food
 I put them in a Pill Pocket or similar product
 I put them in foods (list foods): Dog food

Client: **B6**
Patient: **B6**

Idexx - NTproBNP 5/25/2019

IDEXX Reference Laboratories

Client: **B6** Patient: **B6**

Client: **B6**
Patient: **B6**
Species: CANINE
Breed: COCKER_SPANIEL
Gender: FEMALE SPAYED
Age: 10Y

Date: **B6**
Requisition #: 1
Accession #: **B6**
Ordered by: **B6**

IDEXX VetConnect 1-888-433-9967
TUFTS UNIVERSITY
200 WESTBORO RD
NORTH GRAFTON, Massachusetts 01536
508-839-5395
Account #88933

CARDIOPET proBNP - CANINE

Test	Result	Reference Range	Low	Normal	High
CARDIOPET proBNP - CANINE	B6	0 - 900 pmol/L	HIGH		B6

Comments

B6

Please note: Complete interpretive comments for all concentrations of cardiopet proBNP are available in the online directory of services. Serum specimens received at room temperature may have decreased NT-proBNP concentrations.

Client: **B6**
Patient: **B6**

Vitals Results

5/18/2019 11:14:07 AM	Heart Rate (/min)
5/18/2019 11:14:08 AM	Respiratory Rate
5/18/2019 11:14:09 AM	Temperature (F)
5/18/2019 11:14:10 AM	Weight (kg)
5/18/2019 12:43:53 PM	Lasix/Furosemide treatment note
5/18/2019 12:54:58 PM	Sedation
5/18/2019 1:33:08 PM	Heart Rate (/min)
5/18/2019 1:33:09 PM	Temperature (F)
5/18/2019 1:33:10 PM	Respiratory Rate
5/18/2019 1:33:11 PM	Weight (kg)
5/18/2019 3:08:13 PM	Eliminations
5/18/2019 4:11:00 PM	Lasix/Furosemide treatment note
5/24/2019 12:04:05 PM	Weight (kg)

B6

Client:
Patient:

B6

B6

CXR - 5/17/2019

B6

Client:
Patient:

B6

EKG from cardio

B6

5/18/2019 12:42:53 PM

Tufts University
Tufts Cummings School of Vet Med
Cardiology

B6

Client:
Patient:

B6

EKG from cardio

B6

5/18/2019 12:44:32 PM

Page 1 of 2

Tufts University
Tufts Cummings School of Vet Med
Cardiology

B6

Client:
Patient:

B6

EKG from cardio

B6

5/18/2019 12:44:32 PM

Page 2 of 2

Tufts University
Tufts Cummings School of Vet Med
Cardiology

B6

Client:
Patient:

B6

EKG from cardio

B6

5/18/2019 12:44:37 PM

Tufts University
Tufts Cummings School of Vet Med
Cardiology

B6

Client:
Patient:

B6

EKG from cardio

B6

5/18/2019 12:44:59 PM

Tufts University
Tufts Cummings School of Vet Med
Cardiology

12 Lead: Standard Placement

B6

Client: **B6**
Patient:

EKG from cardio

B6

5/18/2019 12:45:43 PM

Tufts University
Tufts Cummings School of Vet Med
Cardiology

12 Lead: Standard Placement

B6

Client:
Patient:

B6

EKG from cardio

B6

5/18/2019 12:45:55 PM

Tufts University
Tufts Cummings School of Vet Med
Cardiology

B6

Client:
Patient:

B6

ECG from Cardio

B6

5/24/2019 1:57:20 PM

Tufts University
Tufts Cummings School of Vet Med
Cardiology

B6

Client:
Patient:

B6

ECG from Cardio

B6

5/24/2019 1:57:44 PM

Page 1 of 2

Tufts University
Tufts Cummings School of Vet Med
Cardiology

B6

Client: **B6**
Patient:

ECG from Cardio

B6

5/24/2019 1:57:44 PM

Page 2 of 2

Tufts University
Tufts Cummings School of Vet Med
Cardiology

B6

Client: **B6**
Patient:

ECG from Cardio

B6

5/24/2019 1:57:50 PM

Page 1 of 2

Tufts University
Tufts Cummings School of Vet Med
Cardiology

B6

Client:
Patient:

B6

ECG from Cardio

B6

5/24/2019 1:57:50 PM

Page 2 of 2

Tufts University
Tufts Cummings School of Vet Med
Cardiology

B6

Client: **B6**
Patient:

Patient History

05/18/2019 11:14 AM Vitals
05/18/2019 11:17 AM UserForm
05/18/2019 11:17 AM Email

05/18/2019 11:43 AM Purchase
05/18/2019 11:43 AM Purchase
05/18/2019 12:25 PM UserForm
05/18/2019 12:33 PM Treatment

05/18/2019 12:43 PM Vitals

05/18/2019 12:45 PM Labwork
05/18/2019 12:45 PM Labwork
05/18/2019 12:54 PM Vitals
05/18/2019 12:55 PM Purchase
05/18/2019 12:55 PM Purchase
05/18/2019 01:07 PM Purchase
05/18/2019 01:33 PM Vitals
05/18/2019 01:33 PM Vitals
05/18/2019 01:33 PM Vitals
05/18/2019 01:33 PM Vitals
05/18/2019 02:35 PM Appointment

05/18/2019 02:39 PM Treatment

05/18/2019 02:49 PM Prescription
05/18/2019 02:50 PM Prescription
05/18/2019 02:50 PM Prescription
05/18/2019 02:54 PM Purchase
05/18/2019 03:05 PM Treatment

05/18/2019 03:06 PM Vitals
05/18/2019 03:06 PM Vitals
05/18/2019 03:08 PM Vitals
05/18/2019 03:09 PM UserForm
05/18/2019 03:10 PM Treatment
05/18/2019 04:11 PM Vitals
05/18/2019 04:11 PM Treatment
05/18/2019 06:46 PM Treatment
05/21/2019 09:29 AM Appointment

05/24/2019 12:00 PM UserForm
05/24/2019 12:04 PM Vitals

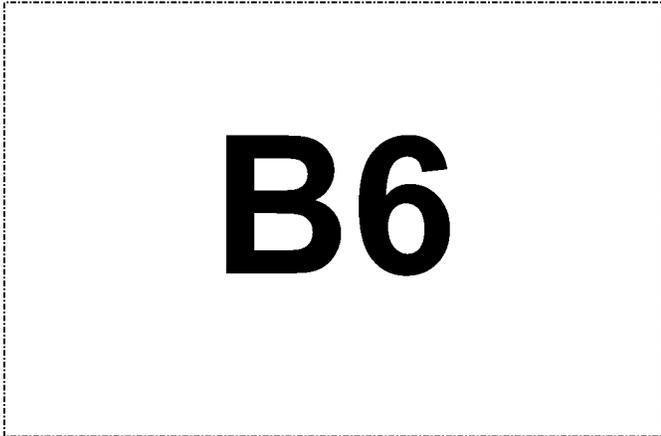
B6

Client:
Patient:

B6

Patient History

05/24/2019 12:20 PM	Treatment
05/24/2019 01:27 PM	UserForm
05/24/2019 01:53 PM	Purchase
05/24/2019 01:58 PM	Purchase
05/24/2019 02:01 PM	Prescription
05/24/2019 02:39 PM	Appointment
05/24/2019 02:44 PM	Appointment



Patient Account History	Description	Qty	price	Extended	Disc	Pmt
--------------------------------	--------------------	------------	--------------	-----------------	-------------	------------

Client: **B6**
Patient:

Patient Account History	Description	Qty	price	Extended	Disc	Pmt
Saturday, 18 May 2019 11:43	Appointment: Emergency Room Visit	1.000	B6	B6	0.0000	0.0000

Client: **B6**
Patient:

Patient Account History	Description	Qty	price	Extended	Disc	Pmt
Saturday, 18 May 2019 11:43	B6 (0 To 6 hrs)	B6	B6	B6	0.0000	0.0000

From: Freeman, Lisa <Lisa.Freeman@tufts.edu>
To: Jones, Jennifer L
CC: Peloquin, Sarah; Guag, Jake
Sent: 7/2/2019 1:45:01 PM
Subject: RE: [REDACTED] euthanized

Hi Jen
Thanks for letting me know. I'll update her primary care vet
Lisa

Lisa M. Freeman, DVM, PhD, DACVN
Board Certified Veterinary Nutritionist™
Professor
Cummings School of Veterinary Medicine
Friedman School of Nutrition Science and Policy
Tufts Clinical and Translational Science Institute
Tufts University
www.petfoodology.org

From: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>
Sent: Tuesday, July 02, 2019 9:41 AM
To: Freeman, Lisa <Lisa.Freeman@tufts.edu>
Cc: Peloquin, Sarah <Sarah.Peloquin@fda.hhs.gov>; Guag, Jake <Jake.Guag@fda.hhs.gov>
Subject: RE: [REDACTED] euthanized

Good morning Lisa,
Thank you for the update about [REDACTED] I'm sorry to hear that she passed away.
Currently, we are not collecting more tissues for DCM histopathology except on a case-by-case basis. We will not request histopathology or tissue for [REDACTED] case.
Thank you again,
Jen

Jennifer Jones, DVM
Veterinary Medical Officer
Tel: 240-402-5421



From: Freeman, Lisa <Lisa.Freeman@tufts.edu>
Sent: Monday, July 01, 2019 11:32 AM
To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Peloquin, Sarah <Sarah.Peloquin@fda.hhs.gov>; Guag, Jake <Jake.Guag@fda.hhs.gov>
Subject: [REDACTED] euthanized

Hi Jen and all

[REDACTED] one of the dogs in our study (Cocker Spaniel with heart failure, mitral valve disease but reduced contractility) and that we reported to you, was euthanized on [REDACTED]. The RDVM is holding the body in case you'd like the heart but I wasn't sure if it would be too autolyzed at this point. Can you let me know either way asap so that I can update the vet?

Thanks
Lisa

Lisa M. Freeman, DVM, PhD, DACVN

Board Certified Veterinary Nutritionist™
Professor
Cummings School of Veterinary Medicine
Friedman School of Nutrition Science and Policy
Tufts Clinical and Translational Science Institute
Tufts University
www.petfoodology.org

B6

Discharge Instructions

B6

Patient ID: B6

B6

Admit Date: 1/24/2019 10:26:41 AM

Discharge Date: 1/24/2019

Diagnoses: Decreased contractile function and mildly enlarged heart (stable).

Clinical Findings:

Thank you for bringing B6 in today for his recheck echocardiogram. You report that B6 is doing well at home, although he sometimes has a dry cough after eating. On physical exam there were no abnormalities while listening to his heart, and he had nice strong pulses.

Today on echocardiogram (ultrasound of the heart), B6 heart looks similar to how it did previously. He still has a slight reduced contractile function and his heart is mildly enlarged which is abnormal for a dog of his age. This is not yet severe enough that B6 requires any additional medications, however, we recommend continuing him on his taurine supplement and we will continue to monitor his heart closely in the future.

Monitoring at Home:

B6 is very stable today and is not close to heart failure. However, please monitor for him for any signs of weakness or collapse, a reduction in appetite, cough, or distension of the belly. If you notice any abnormalities, we would like to see him for a recheck exam.

If you ever have any concerns, please call or have B6 evaluated by a veterinarian. Our emergency clinic is open 24 hours a day.

Diet Suggestions:

Please continue feeding [B6] the Purina Pro Plan diet.

Exercise Recommendations: [B6] may continue his normal activity and exercise regime

Recommended Medications:

1. Taurine Supplement - Give 1000mg by mouth every 12 hours.

(brands we recommend include TwinLab, Swanson, NOW and GNC brands)

Taurine is an amino acid that is shown to be necessary for appropriate heart health. Supplementing Taurine, in some cases, has lead to reduction in heart enlargement and an increase in heart health in dogs with DCM.

Recheck Visits: We would like to see [B6] back for a recheck echocardiogram in 6 months.

Thank you for entrusting us with [B6] care- he is such a good boy!. Please contact our Cardiology liaison at [B6] for scheduling and non-emergent questions or concerns.

Please visit our HeartSmart website for more information

<http://vet.tufts.edu/heartsmart/>

Prescription Refill Disclaimer:

For the safety and well-being of our patients, your pet must have had an examination by one of our veterinarians within the past year in order to obtain prescription medications.

Ordering Food:

Please check with your primary veterinarian to purchase the recommended diet(s). If you wish to purchase your food from us, please call 7-10 days in advance (508-887-4629) to ensure the food is in stock. Alternatively, veterinary diets can be ordered from online retailers with a prescription/veterinary approval.

Clinical Trials:

Clinical trials are studies in which our veterinary doctors work with you and your pet to investigate a specific disease process or a promising new test or treatment. Please see our website: vet.tufts.edu/cvmc/clinical-studies

[B6]

Discharge Instructions

B6

Patient ID: B6
B6 Canine
B6 years Old Male (Neutered) Golden Retriever
Gold

Cardiology Appointment Report

B6

Presenting Complaint: DCM Study, last echocardiogram performed 11/2018 revealing decreased contractile function - r/o DCM vs. diet induce cardiomyopathy. Did not require medical intervention B6 at that time, but initiated Taurine supplementation and diet change.

Concurrent Diseases: Apparently healthy pet

General Medical History: Owner states B6 coughs once in a while. When inquiring for more detail-owner said she notices it once a day after he eats a lot. Describes it as a dry cough. He vomited a week ago-unsure of consistency.

Diet and Supplements: Eats purina proplan sport, taurine supplement

Cardiovascular History:

Prior CHF diagnosis? No

Prior heart murmur? No

Prior ATE? No

Prior arrhythmia? No

Monitoring respiratory rate and effort at home? No

Cough? Yes

Shortness of breath or difficulty breathing? No

Syncope or collapse? No

Sudden onset lameness? No

Exercise intolerance? No

Current Medications Pertinent to CV System:

B6

Medication:

Formulation/Tab Size:

Administration Frequency:

Need refills?

Medication:

Formulation/Tab Size:

Administration Frequency:

Need refills?

Cardiac Physical Examination:

B6

Muscle condition:

- Normal
- Mild muscle loss
- Moderate cachexia
- Marked cachexia

Cardiovascular Physical Exam:

Murmur Grade:

- None
- I/VI
- II/VI
- III/VI
- IV/VI
- V/VI
- VI/VI

Murmur location/description:

Jugular vein:

- Bottom 1/3 of the neck
- Middle 1/3 of the neck
- 1/2 way up the neck
- Top 2/3 of the neck

Arterial pulses:

- Weak
- Fair
- Good
- Strong
- Bounding
- Pulse deficits
- Pulsus paradoxus
- Other:

Arrhythmia:

- None
- Sinus arrhythmia
- Bradycardia
- Tachycardia

Premature beats

Gallop:

- Yes
- No
- Intermittent

- Pronounced
- Other:

Pulmonary assessments:

- Eupneic
- Mild dyspnea
- Marked dyspnea
- Normal BV sounds

- Pulmonary crackles
- Wheezes
- Upper airway stridor

Abdominal exam:

- Normal
- Hepatomegaly
- Abdominal distension

- Mild ascites
- Marked ascites

Problems:

Differential Diagnoses:

Diagnostic plan:

- Echocardiogram
- Chemistry profile
- ECG
- Renal profile
- Blood pressure

- Dialysis profile
- Thoracic radiographs
- NT-proBNP
- Troponin I
- Other tests:

Echocardiogram Findings:

B6

Assessment and recommendations: Stable systolic dysfunction with similar LV function compared to previous exam. Recommend continue Taurine supplementation and current diet. Echocardiogram should be repeated in 3 months or sooner in case patient develops clinical signs consistent with worsening of the disease.

Final Diagnosis:

- Decreased contractile function - r/o DCM vs. diet induce cardiomyopathy.

Heart Failure Classification Score:

ISACHC Classification:

- | | |
|--|-------------------------------|
| <input type="checkbox"/> Ia | <input type="checkbox"/> IIIa |
| <input checked="" type="checkbox"/> Ib | <input type="checkbox"/> IIIb |
| <input type="checkbox"/> II | |

ACVIM Classification:

- | | |
|--|----------------------------|
| <input type="checkbox"/> A | <input type="checkbox"/> C |
| <input type="checkbox"/> B1 | <input type="checkbox"/> D |
| <input checked="" type="checkbox"/> B2 | |

M-Mode

IVSd		cm
LVIDd		cm
LVPWd		cm
IVSs		cm
LVIDs		cm
LVPWs		cm
EDV(Teich)		ml
ESV(Teich)		ml
EF(Teich)		%
%FS		%
SV(Teich)		ml
Max LA		cm
Time		ms
HR		BPM
CO(Teich)		l/min
CI(Teich)		l/min/m
Ao Diam		cm
LA Diam		cm
LA/Ao		
IVSd		cm
LVIDd		cm
EDV(Teich)		ml
LVIDs		cm
%FS		%
TAPSE		cm

B6

EPSS

cm

M-Mode Normalized

IVSdN

(0.290 - 0.520) !

LVIDdN

(1.350 - 1.730) !

LVPWdN

(0.330 - 0.530)

IVSsN

(0.430 - 0.710) !

LVIDsN

(0.790 - 1.140) !

LVPWsN

(0.530 - 0.780)

2D

SA LA

cm

Ao Diam

cm

SA LA / Ao Diam

IVSd

cm

LVIDd

cm

LVPWd

cm

EDV(Teich)

ml

IVSs

cm

LVIDs

cm

LVPWs

cm

ESV(Teich)

ml

EF(Teich)

%

%FS

%

SV(Teich)

ml

Doppler

MV E Vel

m/s

MV DecT

ms

MV Dec Slope

m/s

MV A Vel

m/s

MV E/A Ratio

E'

m/s

E/E'

A'

m/s

S'

m/s

IVRT

ms

AV Vmax

m/s

AV maxPG

mmHg

PV Vmax

m/s

PV maxPG

mmHg

TR Vmax

m/s

TR maxPG

mmHg

B6

B6

Discharge Instructions

B6

Species: Canine

Gold Male (Neutered) Golden Retriever

Birthdate:

B6

B6

B6

Admit Date: 5/1/2019 12:00:53 PM

Discharge Date: 5/1/2019

Diagnoses: Decreased contractile function and mildly enlarged heart.

Clinical Findings:

Thank you for bringing B6 in today for his recheck echocardiogram. You report that B6 is doing well at home and has not had any coughing or exercise intolerance. On physical exam there were no abnormalities while listening to his heart, and he had nice strong pulses.

Today on echocardiogram (ultrasound of the heart), B6 heart looks similar to how it did previously. His heart is has decreased contractile function and is mildly enlarged which is abnormal for a dog of his age. B6 does not require any additional medications at this time, however, we recommend continuing him on his taurine supplement and we will continue to monitor his heart closely in the future.

Monitoring at Home:

B6 is very stable today and is not close to heart failure. However, please monitor for him for any signs of weakness or collapse, a reduction in appetite, cough, or distension of the belly. If you notice any abnormalities, we would like to see him for a recheck exam.

If you ever have any concerns, please call or have B6 evaluated by a veterinarian. Our emergency clinic is open 24 hours a day.

Diet Suggestions:

Please continue feeding **B6** the Purina Pro Plan diet.

Exercise Recommendations: **B6** may continue his normal activity and exercise regime

Recommended Medications:

B6

Recheck Visits: We would like to see **B6** back for a recheck echocardiogram in 2-3 months. **B6** will call you to schedule this appointment.

Thank you for entrusting us with **B6** care- he is such a sweet boy! Please contact our Cardiology liaison at (508)-887-4696 or email us at cardiovet@tufts.edu for scheduling and non-emergent questions or concerns.

Please visit our HeartSmart website for more information
<http://vet.tufts.edu/heartsmart/>

Prescription Refill Disclaimer:

For the safety and well-being of our patients, your pet must have had an examination by one of our veterinarians within the past year in order to obtain prescription medications.

Ordering Food:

Please check with your primary veterinarian to purchase the recommended diet(s). If you wish to purchase your food from us, please call 7-10 days in advance (508-887-4629) to ensure the food is in stock. Alternatively, veterinary diets can be ordered from online retailers with a prescription/veterinary approval.

Clinical Trials:

Clinical trials are studies in which our veterinary doctors work with you and your pet to investigate a specific disease process or a promising new test or treatment. Please see our website: vet.tufts.edu/cvmc/clinical-studies

Case **B6**

Owner

B6

Discharge Instructions

B6

B6

Canine
Years Old Male (Neutered) Golden Retriever
Gold

Cardiology Appointment Report

Date: 5/1/2019

B6

Presenting Complaint: recheck - DCM study; doing well at home, active, no coughing

Concurrent Diseases:

none

General Medical History:

Last echo performed 1/19/19 - decreased contractile function, no intervention needed at this time.
Suspect diet-associated DCM

Diet and Supplements:

Taurine 1000mg BID

Cardiovascular History:

Prior CHF diagnosis? n

Prior heart murmur? n

Prior ATE? n

Prior arrhythmia? n

Monitoring respiratory rate and effort at home? n

Cough? very rarely -o cannot remember the last time he coughed

Shortness of breath or difficulty breathing? n

Syncope or collapse? n

Sudden onset lameness? n

Exercise intolerance? n

Current Medications Pertinent to CV System:

None

Cardiac Physical Examination:

B6

Muscle condition:

- Normal
- Mild muscle loss
- Moderate cachexia
- Marked cachexia

Cardiovascular Physical Exam:

Murmur Grade:

- None
- I/VI
- II/VI
- III/VI
- IV/VI
- V/VI
- VI/VI

Murmur location/description:

Jugular vein:

- Bottom 1/3 of the neck
- Middle 1/3 of the neck
- 1/2 way up the neck
- Top 2/3 of the neck

Arterial pulses:

- Weak
- Fair
- Good
- Strong
- Bounding
- Pulse deficits
- Pulsus paradoxus
- Other:

Arrhythmia:

- None
- Sinus arrhythmia
- Premature beats
- Bradycardia
- Tachycardia

Gallop:

- Yes
- No
- Intermittent
- Pronounced
- Other:

Pulmonary assessments:

- Eupneic
- Mild dyspnea
- Marked dyspnea
- Normal BV sounds
- Pulmonary crackles
- Wheezes
- Upper airway stridor

Abdominal exam:

- Normal
- Hepatomegaly
- Mild ascites
- Marked ascites

Abdominal distension

Problems:

DCM with mildly decreased contractile function

Differential Diagnoses:

Diet-associated DCM vs primary DCM

Diagnostic plan:

- | | |
|---|---|
| <input checked="" type="checkbox"/> Echocardiogram | <input type="checkbox"/> Dialysis profile |
| <input checked="" type="checkbox"/> Chemistry profile | <input type="checkbox"/> Thoracic radiographs |
| <input checked="" type="checkbox"/> ECG | <input checked="" type="checkbox"/> NT-proBNP |
| <input type="checkbox"/> Renal profile | <input type="checkbox"/> Troponin I |
| <input type="checkbox"/> Blood pressure | <input type="checkbox"/> Other tests: |

Echocardiogram Findings:

B6

Assessment and recommendations:

Findings consistent with stable mild LV dilation and systolic dysfunction with similar LV function compared to previous exam. Recommend continue Taurine supplementation and current diet. Echocardiogram should be repeated in 3 months or sooner in case patient develops clinical signs consistent with worsening of the disease.

Final Diagnosis:

- Decreased contractile function - r/o mild DCM vs. diet induced cardiomyopathy.

Heart Failure Classification Score:

ISACHC Classification:

- | | |
|--|-------------------------------|
| <input type="checkbox"/> Ia | <input type="checkbox"/> IIIa |
| <input checked="" type="checkbox"/> Ib | <input type="checkbox"/> IIIb |
| <input type="checkbox"/> II | |

ACVIM Classification:

- | | |
|----------------------------|----------------------------|
| <input type="checkbox"/> A | <input type="checkbox"/> C |
|----------------------------|----------------------------|

- B1
- B2

D

M-Mode

IVSd	cm
LVIDd	cm
LVPWd	cm
IVSs	cm
LVIDs	cm
LVPWs	cm
EDV(Teich)	ml
ESV(Teich)	ml
EF(Teich)	%
%FS	%
SV(Teich)	ml
Max LA	cm
Ao Diam	cm
LA Diam	cm
LA/Ao	
TAPSE	cm
EPSS	cm

M-Mode Normalized

IVSdN	{0.290 - 0.520}
LVIDdN	{1.350 - 1.730} !
LVPWdN	{0.330 - 0.530}
IVSsN	{0.430 - 0.710}
LVIDsN	{0.790 - 1.140} !
LVPWsN	{0.530 - 0.780}

2D

SA LA	cm
Ao Diam	cm
SA LA / Ao Diam	
IVSd	cm
LVIDd	cm
LVPWd	cm
EDV(Teich)	ml
IVSs	cm
LVIDs	cm
LVPWs	cm
ESV(Teich)	ml
EF(Teich)	%
%FS	%
SV(Teich)	ml
LV Major	cm
LV Minor	cm

B6

Sphericity Index
LVld A4C
LVEDV MOD A4C
LVls A4C
LVESV MOD A4C
LVEF MOD A4C
SV MOD A4C

Doppler

MR Vmax
MR maxPG
MV E Vel
MV DecT
MV Dec Slope
MV A Vel
MV E/A Ratio
E'
E/E'
A'
S'
IVRT
AV Vmax
AV maxPG
PV Vmax
PV maxPG
TR Vmax
TR maxPG



cm
ml
cm
ml
%
ml

m/s
mmHg
m/s
ms
m/s
m/s

m/s

m/s
m/s
ms
m/s
mmHg
m/s
mmHg
m/s
mmHg

From: Freeman, Lisa <Lisa.Freeman@tufts.edu>
To: Jones, Jennifer L
Sent: 8/24/2018 10:17:06 PM
Subject: FW: 800.267-FDA Case Investigation for [REDACTED] (EON-308715)

Hi Jen,
[REDACTED] will send records on [REDACTED] since I wasn't involve in that case but since she and I have worked together on [REDACTED] she asked me to submit that one. I just submitted a report along with his records. I indicated in the report that I had more records but on more careful inspection, I think I've sent you everything I have. [REDACTED] would be very happy to provide more info. She found a small amount of the original diet which she sent to me and I am including that in the food box that I'm submitting to you on Monday.

Thanks for all your work on this!
Lisa

From: Jones, Jennifer L [<mailto:Jennifer.Jones@fda.hhs.gov>]
Sent: Thursday, August 23, 2018 11:51 AM
To: [REDACTED]
Subject: 800.267-FDA Case Investigation for [REDACTED] and [REDACTED] (EON-308715)

Good morning [REDACTED]
Thank you for submitting your consumer complaint to FDA. I'm sorry to hear about [REDACTED] illness. As part of our investigation, we'd like to request:

- **Full Medical Records**
 - Please email (preferred) or fax (301-210-4685) a copy of [REDACTED] **entire** medical history (not just this event), including any referral diagnostics.
- **Have you submitted a report for [REDACTED]** I was forwarded the medical records and told from Dr. Lisa Freeman that you may have submitted a complaint. I cannot seem to locate it within our system.

I attached a copy of our Vet-LIRN network procedures. The procedures describe how Vet-LIRN operates and how veterinarians help with our case investigations.

Please respond to this email so that we can initiate our investigation.

Thank you kindly,
Dr. Jones

Jennifer L. A. Jones, DVM

Veterinary Medical Officer
U.S. Food & Drug Administration
Center for Veterinary Medicine
Office of Research
Veterinary Laboratory Investigation and Response Network (Vet-LIRN)
8401 Muirkirk Road, G704
Laurel, Maryland 20708
new tel: 240-402-5421
fax: 301-210-4685
e-mail: jennifer.jones@fda.hhs.gov
Web: <http://www.fda.gov/AnimalVeterinary/ScienceResearch/ucm247334.htm>



From: Rotstein, David </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=0A3B17EBFCF14A6CB8E94F322906BADD-DROTSTEI>
To: Carey, Lauren; Ceric, Olgica; Glover, Mark; Jones, Jennifer L; Nemser, Sarah; Palmer, Lee Anne; Peloquin, Sarah; Queen, Jackie L; Rotstein, David
Sent: 9/10/2018 7:44:25 PM
Subject: FW: Earthborn Naturals Lamb Grain Free for 1 year-Zignature Kangaroo Grain Free for 2 years: **B6** - EON-364808 plus first dog's PFR EON-362973
Attachments: 2054800-report.pdf; Zignature Kangaroo Grain Free Formula; **B6** EON-362973; 2054800-attachments.zip

David Rotstein, DVM, MPVM, Dipl. ACVP
CVM Vet-LIRN Liaison
CVM OSC/DC/CERT
7519 Standish Place
B6 (BB)



This e-mail message is intended for the exclusive use of the recipient(s) named above. It may contain information that is protected, privileged, or confidential, and it should not be disseminated, distributed, or copied to persons not authorized to receive such information. If you are not the intended recipient, any dissemination, distribution, or copying is strictly prohibited. If you think you received this e-mail message in error, please e-mail the sender immediately at david.rotstein@fda.hhs.gov.

From: PFR Event <pfpreventcreation@fda.hhs.gov>
Sent: Monday, September 10, 2018 3:36 PM
To: Cleary, Michael * <Michael.Cleary@fda.hhs.gov>; HQ Pet Food Report Notification <HQPetFoodReportNotification@fda.hhs.gov>; usha.gulati@doveltech.com
Subject: Earthborn Naturals Lamb Grain Free for 1 year-Zignature Kangaroo Grain Free for 2 years **B6**
B6 EON-364808

A PFR Report has been received and PFR Event [EON-364808] has been created in the EON System.

A "PDF" report by name "2054800-report.pdf" is attached to this email notification for your reference. Please note that all documents received in the report are compressed into a zip file by name "2054800-attachments.zip" and is attached to this email notification.

Below is the summary of the report:

EON Key: EON-364808
ICSR #: 2054800
EON Title: PFR Event created for Earthborn Naturals Lamb Grain Free for 1 year Zignature Kangaroo Grain Free for 2 years; 2054800

AE Date	05/23/2018	Number Fed/Exposed	2
Best By Date		Number Reacted	2

Animal Species	Dog	Outcome to Date	Better/Improved/Recovering
Breed	Mastiff		
Age	6 Years		
District Involved	PFR-Atlanta DO		

Product information

Individual Case Safety Report Number: 2054800

Product Group: Pet Food

Product Name: Earthborn Naturals Lamb Grain Free for 1 year Zignature Kangaroo Grain Free for 2 years

Description: Other mastiff in the house **B6** was presented in congestive heart failure, possibly due to a grain free diet. **B6** was presented on 5/23/18 for occult DCM screening. **B6** has been doing well at home and not showing any signs of heart disease. He had been eating the same grain free diet as **B6** and was transitioned to a diet containing grains 3 weeks prior to this visit. Whole blood taurine basically normal. Echo revealed moderate to severe left ventricular enlargement, mild MR, mildly decreased LV ejection fraction. No arrhythmias detected. **B6** was placed on taurine supplementation. **B6** returned for a 3 month recheck 8/31/18. His echo showed considerable improvement in size, although still enlarged.

Submission Type: Initial

Report Type: Both

Outcome of reaction/event at the time of last observation: Better/Improved/Recovering

Number of Animals Treated With Product: 2

Number of Animals Reacted With Product: 2

Product Name	Lot Number or ID	Best By Date
Earthborn Naturals Lamb Grain Free for 1 year Zignature Kangaroo Grain Free for 2 years		

Sender information

B6

USA

Owner information

B6

USA

To view this PFR Event, please click the link below:

<https://eon.fda.gov/eon//browse/EON-364808>

To view the PFR Event Report, please click the link below:

<https://eon.fda.gov/eon//EventCustomDetailsAction!viewReport.jspa?decorator=none&e=0&issueType=12&issueld=381567>

=====

This email and attached document are being provided to you in your capacity as a Commissioned Official with the U.S. Department of Health and Human Services as authorized by law. You are being provided with this information pursuant to your signed Acceptance of Commission.

This email message is intended for the exclusive use of the recipient(s) named above. It may contain information that is protected, privileged, or confidential. Any dissemination, distribution, or copying is strictly prohibited.

The information is provided as part of the Federal-State Integration initiative. As a Commissioned Official and state government official, you are reminded of your obligation to protect non-public information, including trade secret and confidential commercial information that you receive from the U.S. Food and Drug Administration from further disclosure. The information in the report is intended for situational awareness and should not be shared or acted upon independently. Any and all actions regarding this information should be coordinated through your local district FDA office.

Failure to adhere to the above provisions could result in removal from the approved distribution list. If you think you received this email in error, please send an email to FDAReportableFoods@fda.hhs.gov immediately.

From: Freeman, Lisa <Lisa.Freeman@tufts.edu>
To: Jones, Jennifer L
Sent: 8/27/2018 1:23:54 PM
Subject: FW: Taurine result for patients [B6]
Attachments: T_20484.pdf; T_20485.pdf

Taurine results on [B6]
Lisa

Lisa M. Freeman, DVM, PhD, DACVN
Board Certified Veterinary Nutritionist™
Professor
Cummings School of Veterinary Medicine
Friedman School of Nutrition Science and Policy
Tufts Clinical and Translational Science Institute
Tufts University
www.petfoodology.org

All Medical Records

Client: [B6]
Address: [B6]

Patient: [B6]
Breed: Doberman
DOB: [B6]

Species: Canine
Sex: Female
(Spayed)

Home Phone: [B6]
Work Phone: () -
Cell Phone: [B6]

Referring Information

[B6]

Client: [B6]
Patient: [B6]

Initial Complaint:

Cardiology Study Appointment

SOAP Text Aug 20 2018 1:58PM - [B6]

Initial Complaint:

Recheck - [B6] - DCM study

SOAP Text Dec 12 2018 12:23PM - [B6]

Initial Complaint:

Recheck - [B6] - DCM study

Initial Complaint:

PAGE ANTOON - HOLTER REMOVAL

Client:
Patient:

B6

Disposition/Recommendations

Client: **B6**
Patient:

Client: **B6**
Patient:

Cummings
Veterinary Medical Center
AT TUFTS UNIVERSITY

Foster Hospital for Small Animals

55 Willard Street
North Grafton, MA 01536
(508) 839-5395

Client:	B6
Veterinarian:	
Patient ID:	B6
Visit ID:	

Patient:	B6
Species:	Canine
Breed:	Doberman
Sex:	Female (Spayed)
Age:	B6 Years Old

Lab Results Report

Accession ID:			
Test	Results	Reference Range	Units



Client: **B6**
Patient:

UCDavis Taurine Level

B6

Sample Submission Form

Amino Acid Laboratory
University of California, Davis
1020 Vet Med 3B
1089 Veterinary Medicine Drive
Davis, CA 95616
Tel: (530)752-5058, Fax: (530)752-4698

UC CUSTOMERS ONLY:
Non-federal funds ID/Account Number
to bill: _____

<http://www.vetmed.ucdavis.edu/vmb/aal/aal.html>

B6

Vet/Tech Contact: **B6**
Company Name: Tufts Cummings School of Vet Med - Clinical Pathology Labor
Address: 200 Westboro Road
North Grafton, MA 01536
Email: clinpath@tufts.edu; cardiovet@tufts.edu
Tel: 508-887-4669 Fax: 508-839-7936

B6 Canine
8/20/2018 1:58 PM
TAURINE (WHOLE BLOOD)
Lithium Heparin

Billing Contact: **B6** TAX ID: _____
Email: **B6** Tel: **B6**

Patient Name: **B6**
Species: canine
Owner's Name: **B6**

Sample Type: Plasma Whole Blood Urine Food Other: _____
Test Items: Taurine Complete Amino Acid Other: _____

Taurine Results (nmol/ml)
Plasma: _____ Whole Blood: **B6** Urine: _____ Food: _____

Reference Ranges (nmol/ml)

	Plasma		Whole Blood	
	Normal Range	No Known Risk for Taurine Deficiency	Normal Range	No Known Risk for Taurine Deficiency
Cat	80-120	>40	300-600	>200
Dog	60-120	>40	200-350	>150

Client: **B6**
Patient: **B6**

Lab Results IDEXX CARDIOPET proBNP 12/12/18

IDEXX Reference Laboratories

B6

Client: **B6**
Patient: **B6**
Species: CANINE
Breed: DOBERMAN_PINSCH
Gender: FEMALE SPAYED
Age: 10Y

Date: 12/12/2018
Requisition #: 455387
Accession #: **B6**
Ordered by: **B6**

IDEXX VetConnect 1-888-433-9987

TUFTS UNIVERSITY
200 WESTBORO RD
NORTH GRAFTON, Massachusetts 01536-1828
508-339-5395

Account #80735

CARDIOPET proBNP - CANINE

Test	Result	Reference Range	Low	Normal	High
CARDIOPET proBNP - CANINE	B6	0 - 900 pmol/L	HIGH		B6

Comments:

B6

Please note: Complete interpretive comments for all concentrations of cardiopet proBNP are available in the online directory of services. Serum specimens received at room temperature may have decreased NT-proBNP concentrations.

Client: **B6**
 Patient: _____

Diet history 12/12/18

CARDIOLOGY DIET HISTORY FORM
 Please answer the following questions about your pet

Pet's name: **B6** Owner's name: **B6** Today's date: 12/12/18

- How would you assess your pet's appetite? On a scale of 1-10 with 1 being poor and 10 being excellent: 10
- Have you noticed a change in your pet's appetite over the last 1-2 weeks? (check all that apply)
 Eats about the same amount as usual Eats less than usual Eats more than usual
 Seems to prefer different foods than usual Other Meals divided into 3 daily servings. I'm scared of blast. Her brother passed due to blast 10/15.
- Over the last few weeks, has your pet (check one)
 Lost weight Gained weight Stayed about the same weight Don't know
- Please list below ALL pet foods, people food, treats, snack, dental chews, rawhides, and any other food item that your pet currently eats. Please include the brand, specific product, and flavor so we know exactly what your pet is eating.

Food (include specific product and flavor) Form Amount How often? Fed since
Examples are shown in the table – please provide enough detail that we could go to the store and buy the exact same food.

Food (include specific product and flavor)	Form	Amount	How often?	Fed since
Nutro Grain Free Chicken, Lentil, & Sweet Potato Adult	dry	1 1/2 cup	2x/day	Jan 2018
85% lean hamburger	microwaved	3 oz	1x/week	Jan 2015
Pupperoni original beef flavor	treat	1/2	1x/day	Aug 2015
Rawhide	treat	6 inch twist	1x/week	Dec 2015
Purina Pro Plan Healthy Weight Adult	dry	1.5 cups	2x/day	August 2018
Purina Pro Plan Healthy Weight Adult (1.5 cups 2x/day + 1 cup 1x/day)	dry	1 cup	1x/day	Oct. 2018
Hills Science Diet Beef&Barley Chicken&Barley Chicken&Beef	wet	1/4 can	2x/day with 1.5dry	August 2018
Organic sell free, sugar free peanut butter	wet/frozen	1 teaspoon	1x/day or less	since little
Organic pumpkin puree	wet/frozen	1 to 2 teaspoons	1x/day or less	2015?
Banana	mashed	1/2 banana or small	1x/day or less	since little
blue berries or watermelon	organic	a taste	seasonally	since little

**Any additional diet information can be listed at the bottom of this sheet*

- Do you give any dietary supplements to your pet (for example: vitamins, glucosamine, fatty acids, or any other supplements)? Yes No If yes, please list which ones and give brands and amounts:

	Brand/Concentration	Amount per day
Taurine	<input type="radio"/> Yes <input type="radio"/> No _____	_____
Carnitine	<input type="radio"/> Yes <input type="radio"/> No _____	_____
Antioxidants	<input type="radio"/> Yes <input type="radio"/> No _____	_____
Multivitamin	<input type="radio"/> Yes <input type="radio"/> No _____	_____
Fish oil	<input checked="" type="radio"/> Yes <input type="radio"/> No <u>CVS Natures Bounty 1200mg 360 omega 3</u>	<u>2 per day but unsure , have questions</u>
Coenzyme Q10	<input type="radio"/> Yes <input type="radio"/> No _____	_____
Other (please list): Example: Vitamin C	<u>Nature's Bounty</u>	<u>500 mg tablets – 1 per day</u>
Thyrotab	<u>0.8mg</u>	<u>1 tablet twice per day</u>
_____	_____	_____
_____	_____	_____

- How do you administer pills to your pet?
 I do not give any medications I put them directly in my pet's mouth without food
 I put them in my pet's dog/cat food I put them in a Pill Pocket or similar product
 I put them in foods (list foods): I put the thyrotab in a little ball of canned food and she takes it. The fish oil gel tab she'll happily take as is

Additional diet or supplement information: _____

Information below to be completed by the veterinarian:
 Current body weight: _____ kg Current body condition score (1-9): _____/9
 Muscle Condition Score: normal muscle mild muscle loss moderate muscle loss severe muscle loss

Client: **B6**
 Patient:

Diet history 8/20/18

CARDIOLOGY DIET HISTORY FORM

Please answer the following questions about your pet

Pet's name: **B6** Owner's name: **B6** Today's date: **8/20/18**

1. How would you assess your pet's appetite? (mark the point on the line below that best represents your pet's appetite)

Example: Poor _____ | _____ Excellent
 Poor _____ | _____ Excellent

2. Have you noticed a change in your pet's appetite over the last 1-2 weeks? (check all that apply)

Eats about the same amount as usual Eats less than usual Eats more than usual
 Seems to prefer different foods than usual Other _____

3. Over the last few weeks, has your pet (check one)
 Lost weight Gained weight Stayed about the same weight Don't know

4. Please list below ALL pet foods, people food, treats, snack, dental chews, rawhides, and any other food item that your pet currently eats. Please include the brand, specific product, and flavor so we know exactly what you pet is eating.

Food (include specific product and flavor) Form Amount How often? Fed since
 Examples are shown in the table – please provide enough detail that we could go to the store and buy the exact same food.

Food (include specific product and flavor)	Form	Amount	How often?	Fed since
Nutro Grain Free Chicken, Lentil, & Sweet Potato Adult	dry	1 1/2 cup	2x/day	Jan 2018
85% lean hamburger	microwaved	3 oz	1x/week	Jan 2015
Pupperoni original beef flavor	treat	1/2	1x/day	Aug 2015
Rawhide	treat	6 inch twist	1x/week	Dec 2015
Yucca Free Raw Purtery		1.5 cups	2x/day	9/14?
Blueberries, apple slices		handful	throughout day	
Apples, organic pumpkin		"	Seasonal	
Bananas		1/2	few times/week	
organic peanut butter		1 teaspoon	few times/wk	
Boiled eggs		1	every other day	
Chicken		1/2 cup	1 day or every other	

*Any additional diet information can be listed on the back of this sheet

5. Do you give any dietary supplements to your pet (for example: vitamins, glucosamine, fatty acids, or any other supplements)? Yes No If yes, please list which ones and give brands and amounts:

	Brand/Concentration	Amount per day
Taurine	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	_____
Carnitine	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	_____
Antioxidants	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	_____
Multivitamin	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	_____
Fish oil	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	_____
Coenzyme Q10	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	_____
Other (please list): Example: Vitamin C	Nature's Bounty	500 mg tablets – 1 per day
_____	_____	_____
_____	_____	_____
_____	_____	_____

6. How do you administer pills to your pet?

I do not give any medications.
 I put them directly in my pet's mouth without food
 I put them in my pet's dog/cat food
 I put them in a Pill Pocket or similar product
 I put them in foods (list foods): in peanut butter / banana / canned food

Client: **B6**
Patient:

Holter Diary

B6

Client: **B6**
 Patient:

Diet Hx 3/6/19

CARDIOLOGY DIET HISTORY FORM
 Please answer the following questions about your pet

Pet's name: **B6** Owner's name: **B6** Today's date: 3/6/19

1. How would you assess your pet's appetite? (mark the point on the line below that best represents your pet's appetite)
 Example: **Poor** _____ | _____ **Excellent**

Poor _____ | _____ **Excellent**

2. Have you noticed a change in your pet's appetite over the last 1-2 weeks? (check all that apply)

- Eats about the same amount as usual Eats less than usual Eats more than usual
 Seems to prefer different foods than usual Other _____

3. Over the last few weeks, has your pet (check one)
 Lost weight Gained weight Stayed about the same weight Don't know

1. Please list below ALL pet foods, people food, treats, snack, dental chews, rawhides, and any other food item that your pet currently eats and that you have fed in the last 2 years.

Please provide enough detail that we could go to the store and buy the exact same food - examples are shown in the table

Food (include specific product and flavor)	Form	Amount	How often?	Dates fed
Nutro Grain Free Chicken, Lentil, & Sweet Potato Adult	dry	1 1/2 cup	2x/day	Jan 2016-present
85% lean hamburger	microwaved	3 oz	1x/week	June -Aug 2016
Pupperoni original beef flavor	treat	1/2	1x/day	Sept 2016-present
Rawhide	treat	6 inch twist	1x/week	Dec 2018-present
Purina Pro Plan Weight Management	kibble	1.5 cups	3x/day	
Hills Science Diet Barley Canned	can	1/3 can	2x/day	
Bananas	fresh	1/2 banana	few times a week as treat	
organic Peanutbutter (Salt & sugar free)	fresh	teaspoon	1x/day or less in Kong	
Organic Pumpkin	organic canned	tablespoon	1x/day Kong	
blueberries	fresh	handful	Seasonally as treat	
watermelon	fresh	handful	"	

*Any additional diet information can be listed on the back of this sheet

2. Do you give any dietary supplements to your pet (for example: vitamins, glucosamine, fatty acids, or any other supplements)? Yes No If yes, please list which ones and give brands and amounts:

	Brand/Concentration	Amount per day
Taurine	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	_____
Carnitine	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	_____
Antioxidants	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	_____
Multivitamin	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	_____
Fish oil	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	_____
Coenzyme Q10	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	_____
Other (please list): Example: Vitamin C	Nature's Bounty	500 mg tablets - 1 per day
_____	_____	_____
_____	_____	_____
_____	_____	_____

3. How do you administer pills to your pet?

- I do not give any medications
 I put them directly in my pet's mouth without food
 I put them in my pet's dog/cat food
 I put them in a Pill Pocket or similar product
 I put them in foods (list foods): put them in a little ball of canned food and she takes it like a treat

Client: **B6**
Patient:

Vitals Results

8/20/2018 1:25:17 PM

Weight (kg)

B6

Client: **B6**
Patient:

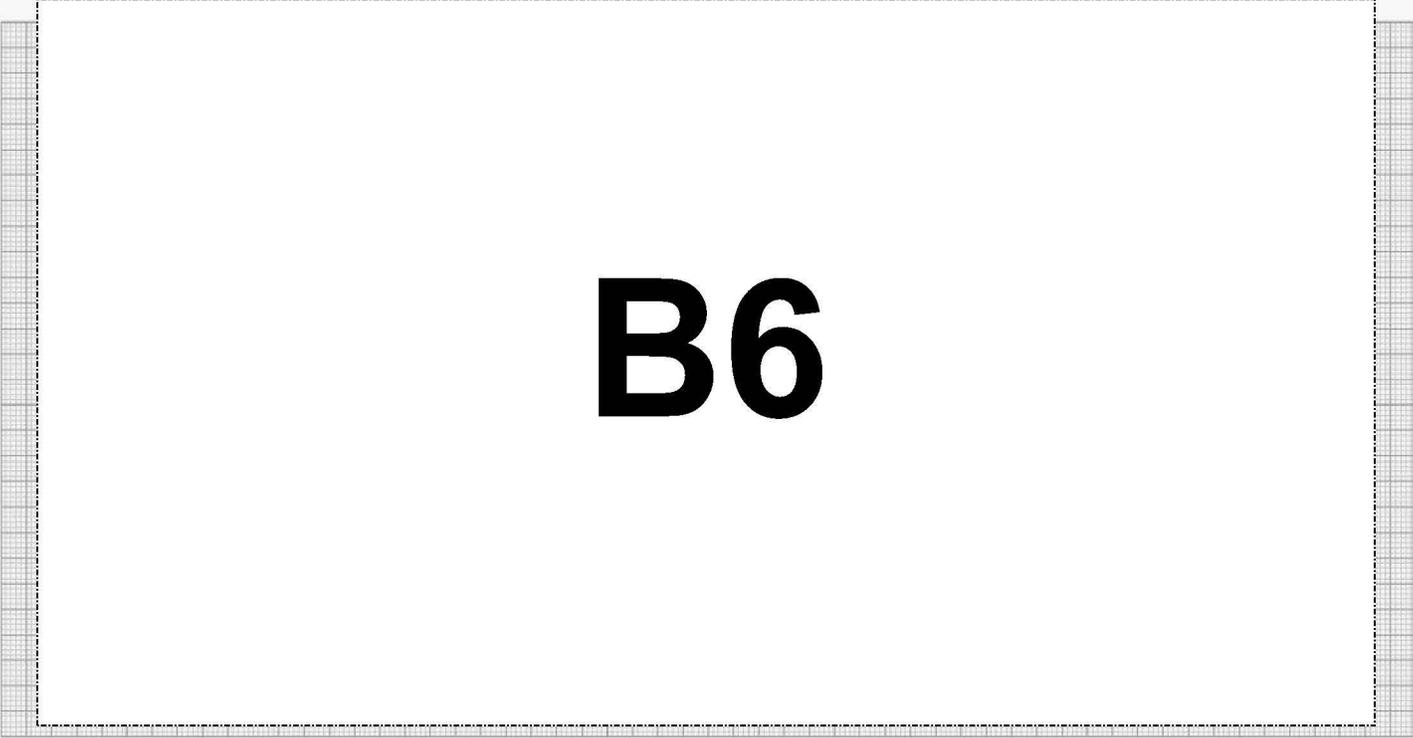
ECG from Cardio

B6

8/20/2018 1:26:13 PM

Page 1 of 2

Tufts University
Tufts Cummings School of Vet Med
Cardiology



B6

Client: **B6**
Patient:

ECG from Cardio

B6

8/20/2018 1:26:13 PM

Page 2 of 2

Tufts University
Tufts Cummings School of Vet Med
Cardiology

B6

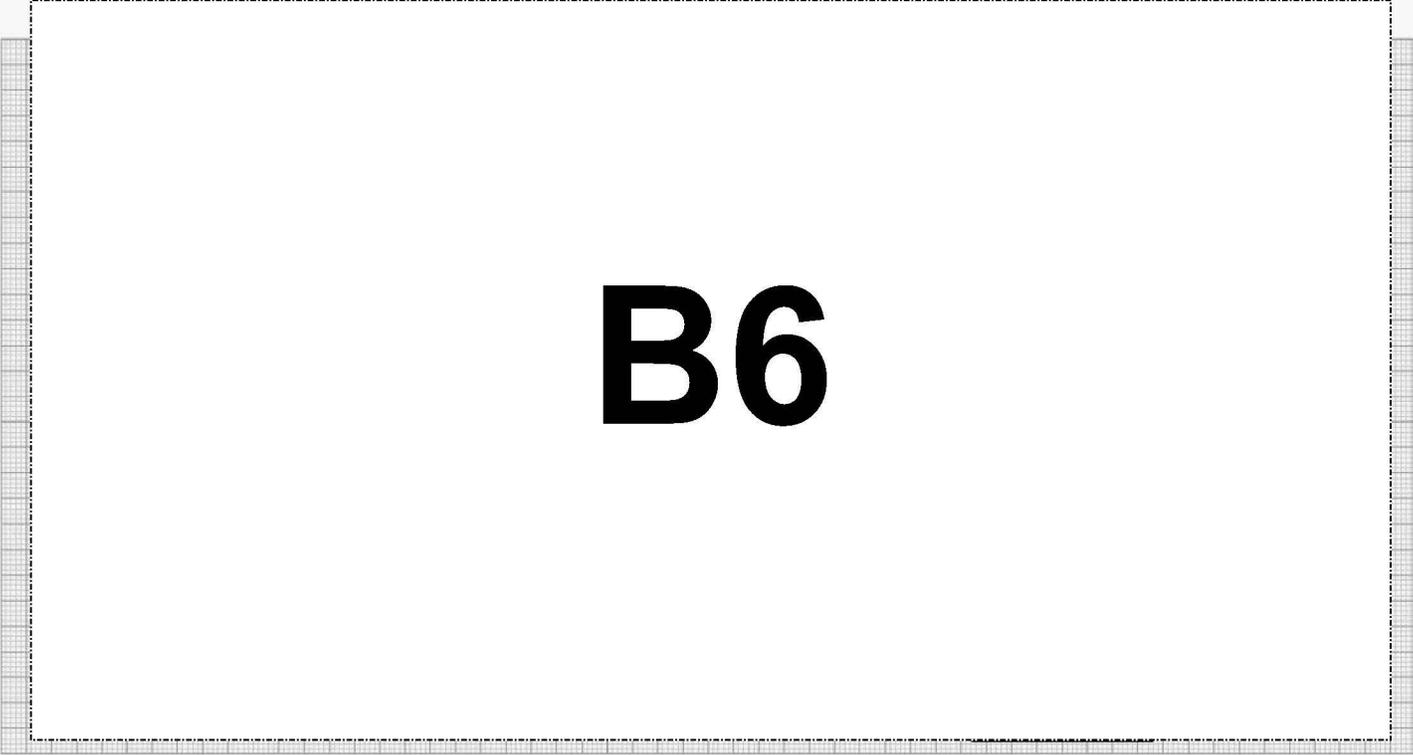
Client: **B6**
Patient:

ECG from Cardio

B6

8/20/2018 1:25:05 PM

Tufts University
Tufts Cummings School of Vet Med
Cardiology

A large rectangular area defined by a dashed border, containing a grid pattern. In the center of this area, the text "B6" is printed in a large, bold, black font.

B6

Client: **B6**
Patient:

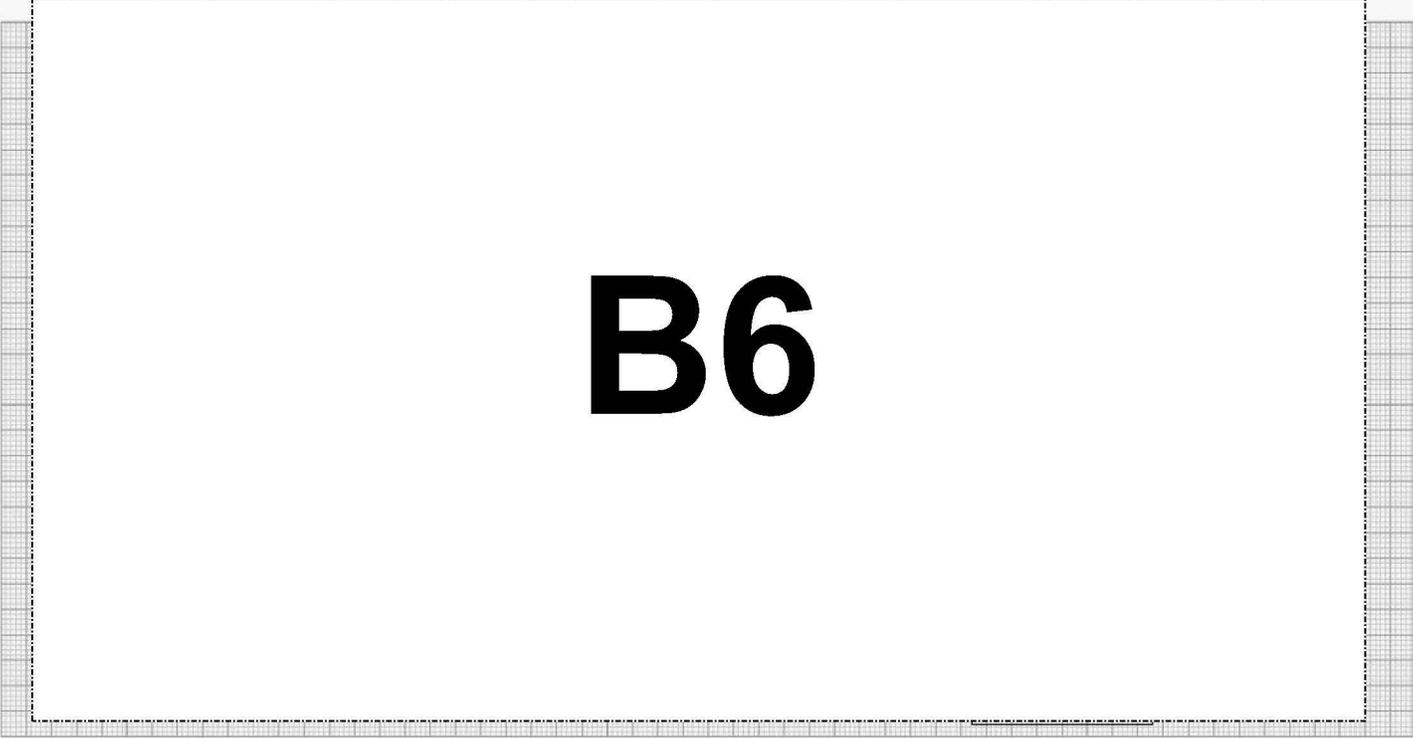
ECG from Cardio

B6

3/6/2019 12:36:12 PM

Page 1 of 2

Tufts University
Tufts Cummings School of Vet Med
Cardiology



B6

Client: **B6**
Patient:

ECG from Cardio

B6

3/6/2019 12:36:12 PM

Page 2 of 2

Tufts University
Tufts Cummings School of Vet Med
Cardiology

B6

Client: **B6**
Patient:

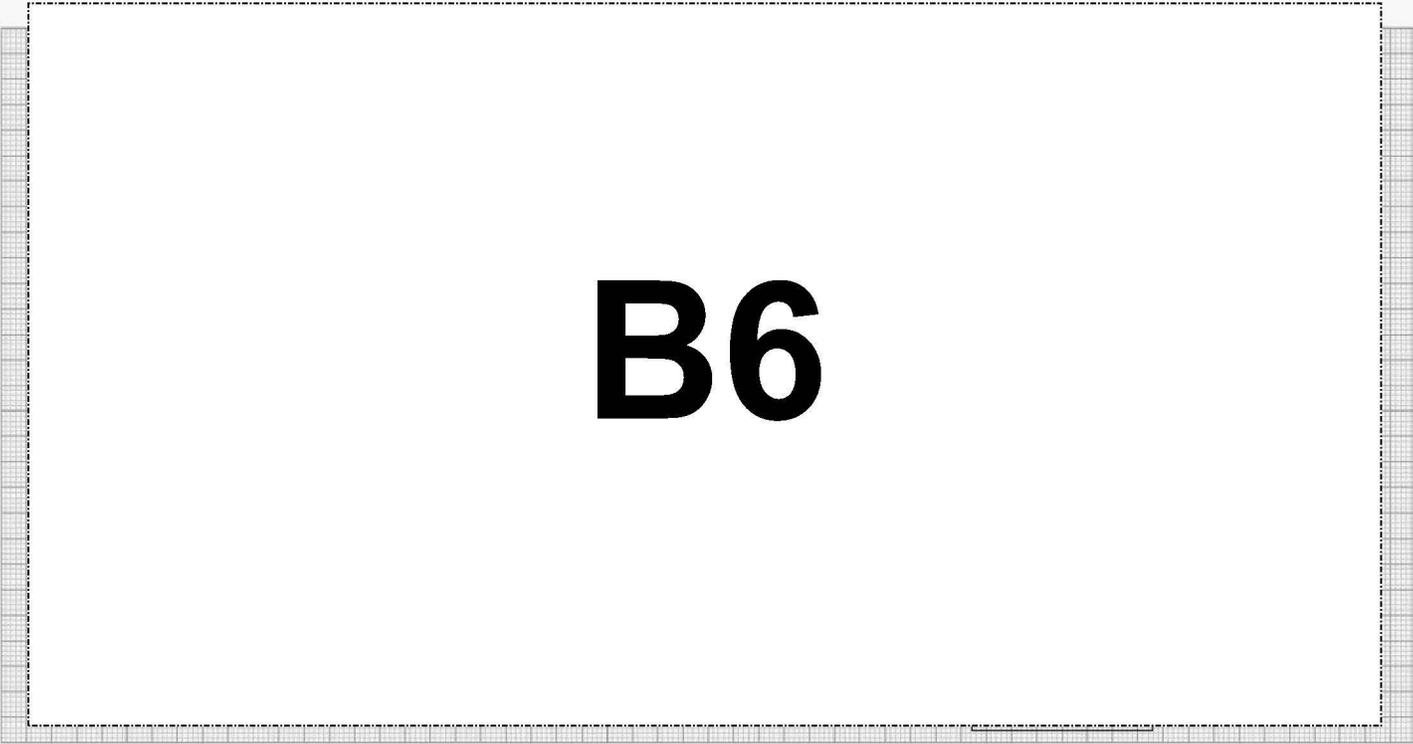
ECG from Cardio

B6

3/6/2019 12:36:17 PM

Page 1 of 2

Tufts University
Tufts Cummings School of Vet Med
Cardiology



B6

Client: **B6**
Patient:

ECG from Cardio

B6

3/6/2019 12:36:17 PM

Page 2 of 2

Tufts University
Tufts Cummings School of Vet Med
Cardiology

B6

Client: **B6**
Patient:

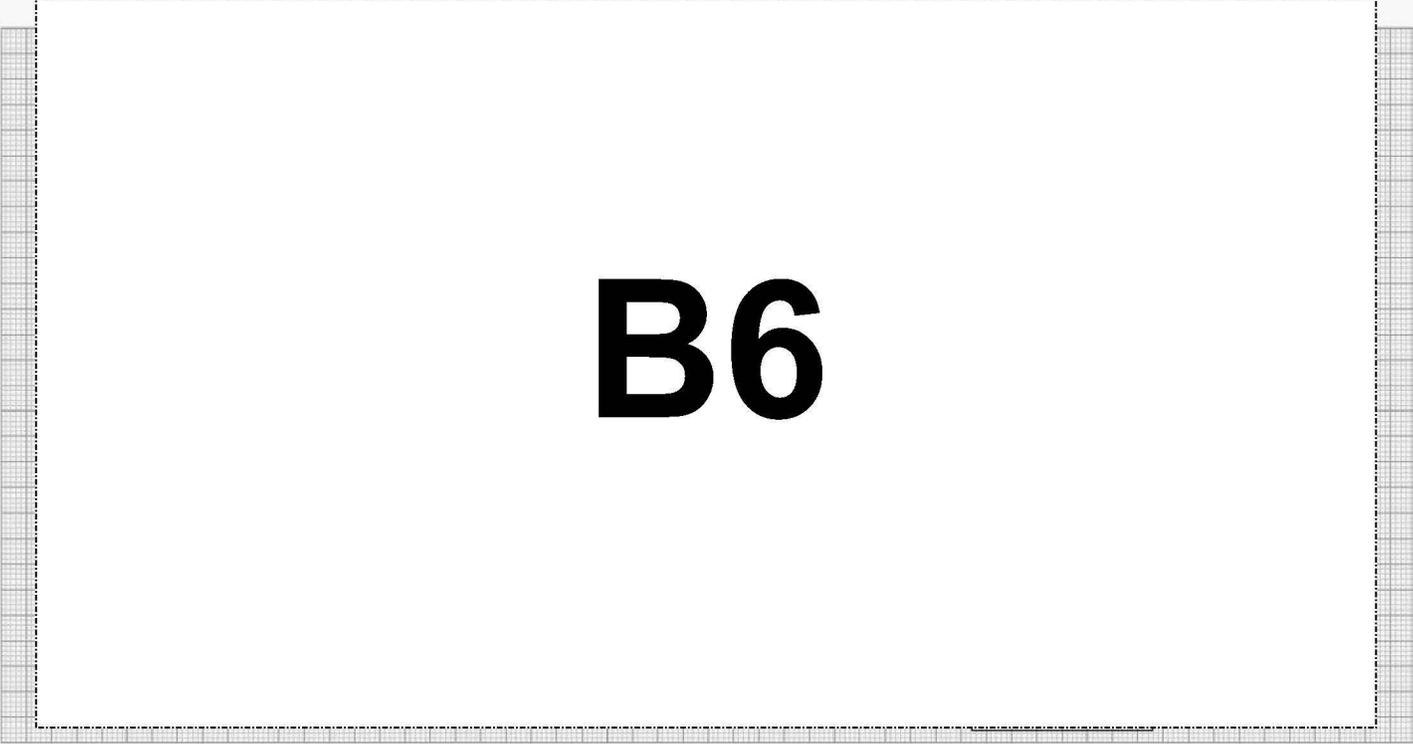
ECG from Cardio

B6

3/6/2019 12:37:14 PM

Page 1 of 2

Tufts University
Tufts Cummings School of Vet Med
Cardiology



B6

Client: **B6**
Patient:

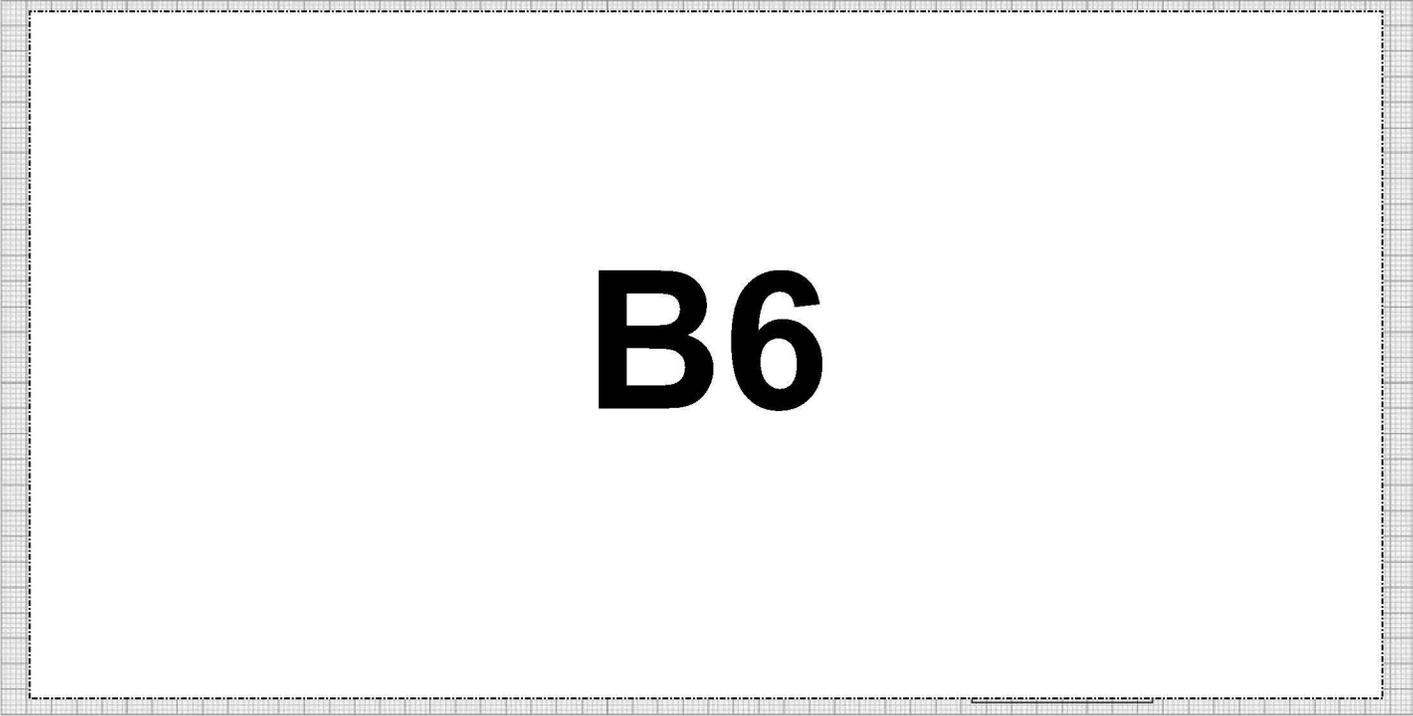
ECG from Cardio

B6

3/6/2019 12:37:14 PM

Page 2 of 2

Tufts University
Tufts Cummings School of Vet Med
Cardiology



B6

Client: **B6**
Patient:

Patient History

08/20/2018 12:48 PM	UserForm
08/20/2018 01:07 PM	Treatment
08/20/2018 01:20 PM	UserForm
08/20/2018 01:25 PM	Vitals
08/20/2018 01:26 PM	Purchase
08/20/2018 01:27 PM	Purchase
08/20/2018 01:27 PM	Purchase
10/17/2018 09:42 AM	Appointment
12/11/2018 07:22 PM	Appointment
12/12/2018 11:04 AM	UserForm
12/12/2018 11:07 AM	Treatment
12/12/2018 11:59 AM	Purchase
12/12/2018 11:59 AM	Purchase
12/12/2018 12:09 PM	UserForm
12/12/2018 12:24 PM	Purchase
12/12/2018 12:47 PM	Appointment
03/06/2019 11:05 AM	UserForm
03/06/2019 11:30 AM	UserForm
03/06/2019 11:58 AM	Purchase
03/06/2019 11:58 AM	Purchase
03/06/2019 11:58 AM	Purchase
03/06/2019 12:04 PM	Treatment
03/06/2019 12:31 PM	Purchase
03/06/2019 01:10 PM	Appointment
03/07/2019 09:24 AM	Appointment
03/07/2019 02:34 PM	Purchase

B6

Patient Account History	Description	Qty	price	Extended	Disc	Pmt
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Client:
Patient:

B6

Patient Account History	Description	Qty	price	Extended	Disc	Pmt
Monday, 20 August 2018 13:27	Appointment: Cardiology Study	1.000	0.000	0.0000	0.0000	0.0000

Client:
Patient:

B6

Patient Account History	Description	Qty	price	Extended	Disc	Pmt
Wednesday, 12 December 2018 11:59	Appointment: Cardiology Study	1.000	0.000	0.0000	0.0000	0.0000

Client: **B6**
Patient:

Patient Account History	Description	Qty	price	Extended	Disc	Pmt
Wednesday, 12 December 2018 12:24	NT Pro BNP Canine (IDEXX 2665) - FHSA					B6

Client:
Patient:

B6

Patient Account History	Description	Qty	price	Extended	Disc	Pmt
Wednesday, 06 March 2019 11:57	Appointment: Cardiology Study	1.000	0.000	0.0000	0.0000	0.0000

Client: **B6**
Patient:

Patient Account History	Description	Qty	price	Extended	Disc	Pmt
Wednesday, 06 March 2019 12:31	Alba Holter Monitor	B6				

Client: B6
Patient:

Patient Account History	Description	Qty	price	Extended	Disc	Pmt
Thursday, 07 March 2019 14:34	Appointment: Cardiology Holter Removal	1.000	0.000	0.0000	0.0000	0.0000

Discharge Instructions

Patient

Name: B6

Species: Canine

Black/Tan Female (Spayed) Doberman

Birthdate: B6

Owner

Name: B6

Address: B6

Patient ID: B6

Attending Cardiologist:

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

Cardiology Resident:

B6

Student: B6

Cardiology Technician:

B6

Admit Date: 8/20/2018 12:44:33 PM

Discharge Date: 8/20/2018

Diagnoses: Apparently healthy animal!

Clinical Findings: On physical exam, her heart rate had mild irregularities called an arrhythmia. Her arrhythmia is called sinus arrhythmia, which happens when the heart rate decreases and increases with respiration. This is a normal finding in dogs. On auscultation, there was no murmurs heard at this time. Her physical exam was within normal limits.

Echocardiogram & ECG Findings:

The echocardiogram today found no evidence of Dilated Cardiomyopathy at this time. She does have slightly decreased contractility of the heart, which is something that does not need to be treated at this time; however, it is something to monitor in the future. The ECG showed a sinus arrhythmia, which is consistent with our auscultation.

Monitoring at Home:

1. We would like you to monitor your dog's breathing rate and effort at home, ideally during sleep or at a time of rest. If you noticed any trends or abnormalities, please contact us.
2. We also want you to watch for weakness or collapse, a reduction in appetite, worsening cough, or distention of the belly as these findings indicate that we should do a recheck examination.
3. If you have any concerns, please call or have your dog evaluated by a veterinarian. Our emergency clinic is open 24 hours/day.

Diet Suggestions:

We would like to change B6 diet to a low sodium diet. A few diet options would be:

Dry Food:

Royal Canin Early Cardiac diet

Purina Canin Boxer

Purina Pro Plan Adult Weight Management (this does not have low calories in spite of the name of the food)

Canned Food:

Hills Science diet adult beef and barley entree

Exercise Recommendations:

B6 does not need any exercise restriction at this time.

Recommended Medications:

B6 does not need any cardiac medications at this time. Depending on the results of her bloodwork, taurine supplementation may need to be initiated. We will call you with the bloodwork results when they become available.

Recheck Visits: A recheck visit is scheduled for 4 months. At this visit we will want to check breathing effort and heart function and do a blood test. A recheck echocardiogram is recommended at this time as well to track any progression of structural or functional abnormalities.

Thank you for entrusting us with B6 care. Please contact our Cardiology liaison at (508)-887-4696 or email us at cardiovet@tufts.edu for scheduling and non-emergent questions or concerns.

Please visit our HeartSmart website for more information

<http://vet.tufts.edu/heartsmart/>

Prescription Refill Disclaimer:

For the safety and well-being of our patients, your pet must have had an examination by one of our veterinarians within the past year in order to obtain prescription medications.

Ordering Food:

Please check with your primary veterinarian to purchase the recommended diet(s). If you wish to purchase your food from us, please call 7-10 days in advance (508-887-4629) to ensure the food is in stock. Alternatively, veterinary diets can be ordered from online retailers with a prescription/veterinary approval.

Clinical Trials:

Clinical trials are studies in which our veterinary doctors work with you and your pet to investigate a specific disease process or a promising new test or treatment. Please see our website: vet.tufts.edu/cvmc/clinical-studies

Case: B6

Owner: B6

Discharge Instructions

Cummings

Veterinary Medical Center

AT TUFTS UNIVERSITY

Cardiology Liaison: 508-887-4696

B6

Patient ID: B6

B6

Canine

B6

Female (Spayed) Doberman

Black/Tan

Cardiology Appointment Report

Date: 8/20/2018

Attending Cardiologist:

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

Cardiology Resident:

B6

Cardiology Technician:

B6

Student:

B6

Presenting Complaint:

Brother from same litter was unexpectedly diagnosed with DCM with secondary CHF recently

Concurrent Diseases:

Hypothyroidism (for 3 yrs) - medically managed

Spay incontinence

History of UTIs/crystalluria - managed with diet

General Medical History:

Acting normally, eating and drinking normally, no changes in bathroom habits, coughing occasionally (randomly), no vomiting, diarrhea, or sneezing noticed.

Diet and Supplements:

Akana Free-Reign Poultry Formulation 1.5-2 cups BID

Cardiovascular History:

Prior CHF diagnosis? No

Prior heart murmur? No

Prior ATE? No

Prior arrhythmia? No

Monitoring respiratory rate and effort at home? Yes, occasionally

Cough? Occasionally, random events

Shortness of breath or difficulty breathing? No

Syncope or collapse? No

Sudden onset lameness? No

Exercise intolerance? No

Current Medications Pertinent to CV System:

B6

Cardiac Physical Examination:

B6

Muscle condition:

- Normal
- Mild muscle loss
- Moderate cachexia
- Marked cachexia

Cardiovascular Physical Exam:

Murmur Grade:

- None
- I/VI
- II/VI
- III/VI
- IV/VI
- V/VI
- VI/VI

Jugular vein:

- Bottom 1/3 of the neck
- Middle 1/3 of the neck
- 1/2 way up the neck
- Top 2/3 of the neck

Arterial pulses:

- Weak
- Fair
- Good
- Strong
- Bounding
- Pulse deficits
- Pulsus paradoxus
- Other:

Arrhythmia:

- None
- Sinus arrhythmia
- Premature beats
- Bradycardia
- Tachycardia

Gallop:

- Yes
- No
- Intermittent
- Pronounced
- Other:

Pulmonary assessments:

- Eupneic
- Mild dyspnea
- Marked dyspnea
- Pulmonary crackles
- Wheezes
- Upper airway stridor

Normal BV sounds

Abdominal exam:

- Normal
- Hepatomegaly
- Abdominal distension
- Mild ascites
- Marked ascites

Problems:

Apparently healthy animal
Genetic predisposition to DCM

Differential Diagnoses:

DCM

Diagnostic plan:

- Echocardiogram
- Chemistry profile
- ECG
- Renal profile
- Blood pressure
- Dialysis profile
- Thoracic radiographs
- NT-proBNP
- Troponin I
- Other tests:

B6

Assessment and recommendations:

Normal cardiac structure, although the contractile function is mildly decreased. This may be indicative of early cardiomyopathy. Taurine levels were submitted for analysis, and the patient will be switched off of the grain-free diet. If contractile function is not improved at the 4 month rechecked despite change in diet, then we should submit a NT-proBNP to help us diagnose if the changes is indicated of primary DCM and not diet related.

Final Diagnosis:

Mild MMVD
R/O diet-related vs. primary DCM related mild decrease in contractile function vs normal variation

Heart Failure Classification Score:

ISACHC Classification:

- Ia
- IIIa

- Ib
- II

IIIb

ACVIM Classification:

- A
- B1
- B2

- C
- D

M-Mode

IVSd	cm
LVIDd	cm
LVPWd	cm
IVSs	cm
LVIDs	cm
LVPWs	cm
%FS	%
Ao Diam	cm
LA Diam	cm
LA/Ao	
Max LA	cm

M-Mode Normalized

IVSdN	(0.29 - 0.52)
LVIDdN	(1.35 - 1.73)
LVPWdN	(0.33 - 0.53)
IVSsN	(0.43 - 0.71) !
LVIDsN	(0.79 - 1.14) !
LVPWsN	(0.53 - 0.78) !
Ao Diam N	(0.68 - 0.89)
LA Diam N	(0.64 - 0.90)

2D

SA LA	cm
Ao Diam	cm
SA LA / Ao Diam	
LVIld A4C	cm
LVEDV MOD A4C	ml
LVIls A4C	cm
LVESV MOD A4C	ml
LVEF MOD A4C	%
SV MOD A4C	ml

Doppler

MV E Vel	m/s
MV DecT	ms
MV A Vel	m/s
MV E/A Ratio	
E'	m/s

B6

A'
E/E'
PV Vmax
PV maxPG
AV Vmax
AV maxPG

B6

m/s
m/s
mmHg
m/s
mmHg

Discharge Instructions

Patient

Name: B6

Species: Canine

Black/Tan Female (Spayed) Doberman

Birthdate: B6

Owner

Name: B6

Address: B6

Patient ID: B6

Attending Cardiologist:

John E. Bush, DVM, MS, DACVIM (Cardiology), DACVECC

B6

Cardiology Resident:

B6

Cardiology Technician:

B6

Student: B6

Admit Date: 8/20/2018 12:44:33 PM

Discharge Date: 12/12/2018

Diagnoses:

Mild decreased contractile function

Clinical Findings:

Thank you for bringing B6 to Tufts for her recheck echocardiogram (ultrasound of the heart).

On physical examination today, B6 vital parameters (heart rate, respiratory rate, and temperature) were within normal limits. We performed an echocardiogram (ultrasound of the heart) in order to reassess her mild decreased contractile function. As we discussed, just by looking at the pictures everything appeared stable. However, when we got the official measurements, the chambers of her heart measured slightly bigger than previously and her contractile function measures slightly lower as well.

As we discussed it is possible that those changes are just a variation of normal for B6. However, we cannot rule out that this is the early sign of dilated cardiomyopathy. In order to get more information on her cardiac status, we submitted a blood test called NT-proBNP. We will have the results by tomorrow and will call you in order to discuss the next step for B6.

Monitoring at home:

1. We would like you to monitor your dog's breathing rate and effort at home, ideally during sleep or at a time of rest. If you noticed any trends or abnormalities, please contact us.
2. We also want you to watch for weakness or collapse, a reduction in appetite, worsening cough, or distention of the belly as these findings indicate that we should do a recheck examination.

3. If you have any concerns, please call or have your dog evaluated by a veterinarian. Our emergency clinic is open 24 hours/day.

Diet Recommendations:

Please continue feeding [B6] her Purina Pro Plan Weight Management dry food and Hill's Science Diet adult beef and barley entree. These foods are low in sodium and do not have low calories despite the name.

Exercise Recommendations:

[B6] does not need any exercise restriction at this time.

Recommended Medications:

[B6] does not need any cardiac medications at this time.

Recheck Visits:

A recheck appointment March 6th 11 am with [B6] At this time we will recheck an echocardiogram.

Thank you for entrusting us with [B6] care. Please contact our Cardiology liaison at (508)-887-4696 or email us at cardiovet@tufts.edu for scheduling and non-emergent questions or concerns.

Sincerely,

[B6]

Please visit our HeartSmart website for more information

<http://vet.tufts.edu/heartsmart/>

Prescription Refill Disclaimer:

For the safety and well-being of our patients, your pet must have had an examination by one of our veterinarians within the past year in order to obtain prescription medications.

Ordering Food:

Please check with your primary veterinarian to purchase the recommended diet(s). If you wish to purchase your food from us, please call 7-10 days in advance (508-887-4629) to ensure the food is in stock. Alternatively, veterinary diets can be ordered from online retailers with a prescription/veterinary approval.

Clinical Trials:

Clinical trials are studies in which our veterinary doctors work with you and your pet to investigate a specific disease process or a promising new test or treatment. Please see our website: vet.tufts.edu/cvms/clinical-studies

Case: [B6]

Owner: [B6]

Discharge Instructions

B6

Patient ID: B6
B6 Canine
B6 Female (Spayed) Doberman
Black/Tan

Cardiology Appointment Report

Date: 12/12/2018

Attending Cardiologist:

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

Cardiology Resident:

B6

Cardiology Technician:

B6

Student: B6

Presenting Complaint:

Mild MMVD

Mild decreased contractile function R/O diet-related vs. primary DCM related mild decrease in contractile function vs normal variation

DCM Study

B6

Diet and Supplements:

Purina Pro Plan (Weight Management) B6

afternoon

Has stopped Fish Oil - has questions about causing bloat

Cardiovascular History:

Prior CHF diagnosis? N
Prior heart murmur? N
Prior ATE? N
Prior arrhythmia? Sinus arrhythmia
Monitoring respiratory rate and effort at home? Not as much, frequent panting
Cough? Occasional, no change from prior
Shortness of breath or difficulty breathing? N
Syncope or collapse? N
Sudden onset lameness? N
Exercise intolerance? N - will occasionally wheeze with cold

Current Medications Pertinent to CV System:

Medication:

Formulation/Tab Size:

Administration Frequency:

Need refills? No

Cardiac Physical Examination:

B6

Muscle condition:

- Normal
- Mild muscle loss
- Moderate cachexia
- Marked cachexia

Cardiovascular Physical Exam:

Murmur Grade:

- None
- I/VI
- II/VI
- III/VI
- IV/VI
- V/VI
- VI/VI

Jugular vein:

- Bottom 1/3 of the neck
- Middle 1/3 of the neck
- 1/2 way up the neck
- Top 2/3 of the neck

Arterial pulses:

- Weak
- Fair
- Good
- Strong
- Bounding
- Pulse deficits
- Pulsus paradoxus
- Other:

Arrhythmia:

- None
- Sinus arrhythmia
- Premature beats
- Bradycardia
- Tachycardia

Gallop:

- Yes
- Pronounced

- No
- Intermittent

Other:

Pulmonary assessments:

- Eupneic
- Mild dyspnea
- Marked dyspnea
- Normal BV sounds
- Pulmonary crackles
- Wheezes
- Upper airway stridor

Abdominal exam:

- Normal
- Hepatomegaly
- Abdominal distension
- Mild ascites
- Marked ascites

Problems:

Mild MMVD

Mildly decreased contractile function r/o diet-related vs. primary DCM related mild decrease in contractile function vs normal variation

Diagnostic plan:

- Echocardiogram
- Chemistry profile
- ECG
- Renal profile
- Blood pressure
- Dialysis profile
- Thoracic radiographs
- NT-proBNP
- Troponin I
- Other tests:

B6

Assessment and recommendations:

Subjectively today's echo appeared very similar than previously but when comparing the numbers it appears that the contractile function is slightly decreased. Depending on which measurement is assess, the LV cavity appears stable to slightly bigger. It is unclear if the changes visualized today are just a variant of normal for this patient versus true progression of a heart disease. The patient was switched

diet since the last appointment and Taurine level were also normal. Since the significance of today's findings is unclear, an NT-proBNP was submitted today. If the level is higher than normal for a Doberman (i.e. >550) then we would most likely recommend starting pimobendan BID. A recheck echocardiogram is recommended in 3 months or sooner if the patient develops clinical signs consistent with worsening heart disease such as increased RR/RE, cough, exercise intolerance, or syncope.

Final Diagnosis:

- Very early DMVD
- Mild decreased contractile function r/o diet-related vs. primary DCM related mild decrease in contractile function vs normal variation

Heart Failure Classification Score:

ISACHC Classification:

- | | |
|--|-------------------------------|
| <input type="checkbox"/> Ia | <input type="checkbox"/> IIIa |
| <input checked="" type="checkbox"/> Ib | <input type="checkbox"/> IIIb |
| <input type="checkbox"/> II | |

ACVIM Classification:

- | | |
|--|----------------------------|
| <input type="checkbox"/> A | <input type="checkbox"/> C |
| <input type="checkbox"/> B1 | <input type="checkbox"/> D |
| <input checked="" type="checkbox"/> B2 | |

M-Mode

IVSd	B6	cm
LVIDd		cm
LVPWd		cm
IVSs		cm
LVIDs		cm
LVPWs		cm
EDV(Teich)		ml
ESV(Teich)		ml
EF(Teich)		%
%FS		%
SV(Teich)		ml
Ao Diam		cm
LA Diam		cm
LA/Ao		
Max LA		cm

2D

SA LA	cm
Ao Diam	cm
SA LA / Ao Diam	
IVSd	cm
LVIDd	cm
LVPWd	cm
EDV(Teich)	ml
IVSs	cm
LVIDs	cm

LVPWs
ESV(Teich)
EF(Teich)
%FS
SV(Teich)
LVld A4C
LVEDV MOD A4C
LVls A4C
LVESV MOD A4C
LVEF MOD A4C
SV MOD A4C

Doppler

MV E Vel
MV DecT
MV Dec Slope
MV A Vel
MV E/A Ratio
E'
E/E'
A'
AV Vmax
AV maxPG
PV Vmax
PV maxPG

B6

cm
ml
%
%
ml
cm
ml
cm
ml
%
ml

m/s
ms
m/s
m/s

m/s

m/s
m/s
mmHg
m/s
mmHg

Discharge Instructions

Patient

Name: B6

Species: Canine

Black/Tan Female (Spayed) Doberman

Birthdate: B6

Owner

Name: B6

Address: B6

Patient ID: B6

Attending Cardiologist:

B6

Cardiology Resident:

B6

Cardiology Technician:

B6

Student: B6

Admit Date: 3/6/2019 10:59:12 AM

Discharge Date: 3/6/2019

Diagnoses:

Mild decreased contractile function that is improved compared to previously.

Case summary:

Thank you for bringing B6 to Tufts cardiology service for her recheck echocardiogram.

Today we performed a recheck echocardiogram (ultrasound of the heart) which revealed that B6 heart is slightly smaller than before and her contractile function appears better than before although still not completely normal. This is excellent news! At this time it is unclear if the changes visualized are secondary to the recent addition of B6 versus the recent change in diet.

As discussed, B6 has occasional isolated premature beats on electrocardiogram (ECG, which measures the electrical rhythms of the heart), meaning that her heart occasionally beats sooner than it should. Today we discussed possible diagnostics - such as a Holter monitor, which records an ECG over 24 hours - and possible treatment options. At this time you elect to use the Holter monitor prior to starting any treatment. We will send B6 home wearing the monitor and a journal to record her activities. We will see B6 again tomorrow to remove the monitor. It will take 1-2 weeks to get the ECH recording analysis finalized and we will contact you in order to decide if we need to start new cardiac medications or not.

Monitoring at home:

- We would like you to monitor your dog's breathing rate and effort at home, ideally during sleep or at a time of rest.

In general, most dogs have a breathing rate at rest of less than 35 to 40 breaths per minute. In addition, the breathing effort, noted by the amount of belly wall motion used for each breath, is fairly minimal in normal dogs.

- We also want you to watch for weakness or collapse, a reduction in appetite, worsening cough, or distention of the belly as these findings indicate that we should do a recheck examination.
- If you have any concerns, please call or have your dog evaluated by a veterinarian. Our emergency clinic is open 24 hours/day.

B6

Diet suggestions:

Please continue feeding B6 her Purina Pro Plan Weight Management dry food and Hill's Science Diet adult beef and barley entree. These foods are low in sodium but contain appropriate calories.

Exercise Recommendations:

B6 does not need any exercise restriction at this time.

Recheck Visits:

Please bring B6 in tomorrow to have her Holter monitor removed.

We would like B6 to have a recheck echocardiogram in 3 months as part of the DCM study, as long as she continues to do well at home. She has an appointment schedule with B6 June 11th at 11am.

Thank you for entrusting us with B6 care. Please contact our Cardiology liaison at (508)-887-4696 or email us at cardiovet@tufts.edu for scheduling and non-emergent questions or concerns.

Sincerely,

B6

Please visit our HeartSmart website for more information

<http://vet.tufts.edu/heartsmart/>

Prescription Refill Disclaimer:

For the safety and well-being of our patients, your pet must have had an examination by one of our veterinarians within the past year in order to obtain prescription medications.

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Clinical Trials:

Clinical trials are studies in which our veterinary doctors work with you and your pet to investigate a specific disease process or a promising new test or treatment. Please see our website: vet.tufts.edu/cvmc/clinical-studies

Case B6

Owner: B6

Discharge Instructions

Cummings Veterinary Medical Center

AT TUFTS UNIVERSITY

Cardiology Liaison: 508-887-4696

B6

Patient ID: B6

B6

Canine

B6

Female (Spayed) Doberman

Black/Tan

Cardiology Appointment Report ENROLLED IN DCM DIET STUDY

Date: 3/6/2019

Attending Cardiologist:

John E. Rush, DVM, MS, DACVIM (Cardiology), DACVECC

B6

Cardiology Resident:

B6

Cardiology Technician:

B6

Student:

B6

Presenting Complaint:

Mild MMVD

Mild decreased contractile function R/O diet-related vs. primary DCM related mild decrease in contractile function vs normal variation

DCM Study

B6

Diet and Supplements:

Purina Pro Plan (Weight Management) 1.5c AM w/ Hill's Sci Diet canned (1/4 can) AM and PM, 1 cup afternoon

Cardiovascular History:

Prior CHF diagnosis? N

Prior heart murmur? N

Prior ATE? N

Prior arrhythmia? Sinus arrhythmia

Monitoring respiratory rate and effort at home? Not as much, frequent panting

Cough? Occasional, no change from prior

Shortness of breath or difficulty breathing? N

Syncope or collapse? N

Sudden onset lameness? N

Exercise intolerance? N

B6

Cardiac Physical Examination:

B6

Muscle condition:

- | | |
|--|--|
| <input checked="" type="checkbox"/> Normal | <input type="checkbox"/> Moderate cachexia |
| <input type="checkbox"/> Mild muscle loss | <input type="checkbox"/> Marked cachexia |

Cardiovascular Physical Exam:

Murmur Grade:

- | | |
|--|--------------------------------|
| <input checked="" type="checkbox"/> None | <input type="checkbox"/> IV/VI |
| <input type="checkbox"/> I/VI | <input type="checkbox"/> V/VI |
| <input type="checkbox"/> II/VI | <input type="checkbox"/> VI/VI |
| <input type="checkbox"/> III/VI | |

Jugular vein:

- | | |
|--|--|
| <input checked="" type="checkbox"/> Bottom 1/3 of the neck | <input type="checkbox"/> 1/2 way up the neck |
| <input type="checkbox"/> Middle 1/3 of the neck | <input type="checkbox"/> Top 2/3 of the neck |

Arterial pulses:

- | | |
|--|---|
| <input type="checkbox"/> Weak | <input type="checkbox"/> Bounding |
| <input type="checkbox"/> Fair | <input type="checkbox"/> Pulse deficits |
| <input checked="" type="checkbox"/> Good | <input type="checkbox"/> Pulsus paradoxus |
| <input type="checkbox"/> Strong | <input type="checkbox"/> Other: |

Arrhythmia:

- | | |
|--|--------------------------------------|
| <input type="checkbox"/> None | <input type="checkbox"/> Bradycardia |
| <input checked="" type="checkbox"/> Sinus arrhythmia | <input type="checkbox"/> Tachycardia |
| <input type="checkbox"/> Premature beats | |

Gallop:

- Yes
- No
- Intermittent

- Pronounced
- Other:

Pulmonary assessments:

- Eupneic
- Mild dyspnea
- Marked dyspnea
- Normal *BV* sounds

- Pulmonary crackles
- Wheezes
- Upper airway stridor

Abdominal exam:

- Normal
- Hepatomegaly
- Abdominal distension

- Mild ascites
- Marked ascites

Problems:

Mild MMVD

Mildly decreased contractile function r/o diet-related vs. primary DCM related mild decrease in contractile function vs normal variation

Elevated proBNP

Diagnostic plan:

- Echocardiogram
- Chemistry profile
- ECG
- Renal profile
- Blood pressure

- Dialysis profile
- Thoracic radiographs
- NT-proBNP
- Troponin I
- Other tests:

B6

B6

Assessment and recommendations:

Echocardiogram reveals improvement of the cardiac dimensions and contractile function. All of the measurements obtained today were improved compared to the previous examination. It is unclear if the changes visualized are secondary to the start of pimobendan vs. being on a new diet for a longer period of time. **B6** did had relatively frequent VPCs today which were all isolated. However, due to her breed and predisposition for arrhythmia, there is some concern that she has more malignant arrhythmia. A Holter was placed today in order to assess the amount and severity of arrhythmia and decide if we want to start a beta-blocker vs. sotalol vs. amiodarone. No blood was pulled today. A recheck echocardiogram and ECG are recommended in 3 months or sooner if the patient develops clinical signs consistent with worsening heart disease.

Final Diagnosis:

- Very early DMVD
- Mild decreased contractile function that is improved compared to last examination.

Heart Failure Classification Score:

ISACHC Classification:

- | | |
|--|-------------------------------|
| <input type="checkbox"/> Ia | <input type="checkbox"/> IIIa |
| <input checked="" type="checkbox"/> Ib | <input type="checkbox"/> IIIb |
| <input type="checkbox"/> II | |

ACVIM Classification:

- | | |
|--|----------------------------|
| <input type="checkbox"/> A | <input type="checkbox"/> C |
| <input type="checkbox"/> B1 | <input type="checkbox"/> D |
| <input checked="" type="checkbox"/> B2 | |

M-Mode

IVSd	cm
LVIDd	cm
LVPWd	cm
IVSs	cm
LVIDs	cm
LVPWs	cm
EDV(Teich)	ml
ESV(Teich)	ml
EF(Teich)	%
%FS	%
SV(Teich)	ml
Ao Diam	cm
LA Diam	cm
LA/Ao	
TAPSE	cm

B6

EPSS	cm
<u>M-Mode Normalized</u>	
IVSdN	(0.290 - 0.520)
LVIDdN	(1.350 - 1.730)
LVPWdN	(0.330 - 0.530)
IVSsN	(0.430 - 0.710)
LVIDsN	(0.790 - 1.140)
LVPWsN	(0.530 - 0.780)
Ao Diam N	(0.680 - 0.890)
LA Diam N	(0.640 - 0.900) !
<u>2D</u>	
SA LA	cm
Ao Diam	cm
SA LA / Ao Diam	
IVSd	cm
LVIDd	cm
LVPWd	cm
EDV(Teich)	ml
IVSs	cm
LVIDs	cm
LVPWs	cm
ESV(Teich)	ml
EF(Teich)	%
%FS	%
SV(Teich)	ml
LV Major	cm
LV Minor	cm
Sphericity Index	
LVLd A4C	cm
LVEDV MOD A4C	ml
LVLs A4C	cm
LVESV MOD A4C	ml
LVEF MOD A4C	%
SV MOD A4C	ml
<u>Doppler</u>	
MV E Vel	m/s
MV DecT	ms
MV Dec Slope	m/s
MV A Vel	m/s
MV E/A Ratio	
E'	m/s
E/E'	
A'	m/s
S'	m/s
AV Vmax	m/s
AV maxPG	mmHg
PV Vmax	m/s

B6

PV maxPG

B6

mmHg

From: Carey, Lauren </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=F0226BD682844FA2B71EA3750D4FCB82-LAUREN.CARE>
To: Rotstein, David; Ceric, Olgica; Glover, Mark; Jones, Jennifer L; Nemser, Sarah; Palmer, Lee Anne; Peloquin, Sarah; Queen, Jackie L
Sent: 2/25/2019 6:54:31 PM
Subject: RE: DCM - More from L Freeman 2/25/2019 0915

EON-380745 is part of that household as well. 3 with DCM so far.

From: Rotstein, David
Sent: Monday, February 25, 2019 9:19 AM
To: Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Glover, Mark <Mark.Glover@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Peloquin, Sarah <Sarah.Peloquin@fda.hhs.gov>; Queen, Jackie L <Jackie.Queen@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>
Subject: DCM - More from L Freeman 2/25/2019 0915

Note: 380742 & 380743 are from the same household. Other dogs in household – 2 not tested yet & 1 normal BNP

David Rotstein, DVM, MPVM, Dipl. ACVP
CVM Vet-LIRN Liaison
CVM OSC/DC/CERT
7519 Standish Place
B6 (BB)



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From: Jones, Jennifer L </o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0f6ca12eaa9348959a4cbb1e829af244-Jennifer.Jo>
To: 'Freeman, Lisa'
Sent: 3/4/2019 12:13:14 PM
Subject: RE: taurine results for [REDACTED] **B6**

Thanks, Lisa!

Jennifer Jones, DVM
Veterinary Medical Officer
Tel: 240-402-5421



From: Freeman, Lisa <Lisa.Freeman@tufts.edu>
Sent: Friday, March 01, 2019 4:51 PM
To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>
Subject: FW: taurine results for [REDACTED] **B6**

FYI

[REDACTED] 3 bulldogs from same household and on same diet
B6 DCM and CHF had [REDACTED] **B6**
– with ARVC and arrhythmias had [REDACTED] **B6**
this most recent one (likely ARVC) was [REDACTED] **B6**

Lisa

Lisa M. Freeman, DVM, PhD, DACVN
Board Certified Veterinary Nutritionist™
Professor
Cummings School of Veterinary Medicine
Friedman School of Nutrition Science and Policy
Tufts Clinical and Translational Science Institute
Tufts University
www.petfoodology.org

Cummings Veterinary Medical Center

AT TUFTS UNIVERSITY

Cardiology Liaison: 508-887-4696

B6

Patient ID: B6

B6 Canine

B6 years Old Female (Spayed) English Bulldog
Brown/White

Cardiology Appointment Report

Date: 5/8/2019

Attending Cardiologist:

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

Cardiology Resident:

B6

Cardiology Technician:

B6

Student: B6

Presenting Complaint: 3 month recheck DCM study

Hx BNP of B6 at rDVM. Possible ARVC but no hx of arrhythmia.

Concurrent Diseases:

Chronic enteritis

General Medical History:

0 reports doing well at home.

B6

Diet and Supplements:

RC Cardiac diet

Now Taurine 500 mg BID

Cardiovascular History:

Prior CHF diagnosis? N

Prior heart murmur? N

Prior ATE? N

Prior arrhythmia? N

Monitoring respiratory rate and effort at home? Y, 30-40 breaths/min when resting

Cough? N

Shortness of breath or difficulty breathing? N

Syncope or collapse? N
Sudden onset lameness? N
Exercise intolerance? N

Current Medications Pertinent to CV System:

None

Cardiac Physical Examination:

B6

Muscle condition:

- Normal
- Mild muscle loss
- Moderate cachexia
- Marked cachexia

Cardiovascular Physical Exam:

Murmur Grade:

- None
- I/VI
- II/VI
- III/VI
- IV/VI
- V/VI
- VI/VI

Jugular vein:

- Bottom 1/3 of the neck
- Middle 1/3 of the neck
- 1/2 way up the neck
- Top 2/3 of the neck

Arterial pulses:

- Weak
- Fair
- Good
- Strong
- Bounding
- Pulse deficits
- Pulsus paradoxus
- Other:

Arrhythmia:

- None
- Sinus arrhythmia
- Premature beats
- Bradycardia
- Tachycardia

Gallop:

- Yes
- No
- Intermittent
- Pronounced
- Other:

Pulmonary assessments:

- Eupneic
- Mild dyspnea
- Marked dyspnea
- Normal BV sounds
- Pulmonary crackles
- Wheezes
- Upper airway stridor

Abdominal exam:

- Normal
- Hepatomegaly
- Mild ascites
- Marked ascites

Abdominal distension

Problems:

History of possible early ARVC

Diagnostic plan:

- Echocardiogram
- Chemistry profile
- ECG
- Renal profile
- Blood pressure

- Dialysis profile
- Thoracic radiographs
- NT-proBNP
- Troponin I
- Other tests: bloodwork for DCM study

B6

Assessment and recommendations:

Echocardiogram reveals stable to possibly mildly improved systolic function. There is still RH dilation consistent with ARVC, but no arrhythmia was documented today. No cardiac medications are clearly indicated based on today's exam, but recommend continuing to supplement with taurine. Redcheck echo in 3 and 6 months for the DCM study.

Final Diagnosis:

Mild cardiac changes that may be consistent with early arrhythmogenic right ventricular cardiomegaly (ARVC) or associated with nutritional cardiomyopathy - stable to slightly improved from appointment in February 2019

Heart Failure Classification Score:

ISACHC Classification:

- Ia
- Ib
- II
- IIIa
- IIIb

ACVIM Classification:

- A
- B1
- B2
- C
- D

M-Mode

IVSd	cm
LVIDd	cm
LVPWd	cm
IVSs	cm
LVIDs	cm
LVPWs	cm
EDV(Teich)	ml
ESV(Teich)	ml
EF(Teich)	%
%FS	%
SV(Teich)	ml
Ao Diam	cm
LA Diam	cm
LA/Ao	
Max LA	cm
TAPSE	cm
EPSS	cm

M-Mode Normalized

IVSdN	{0.290 - 0.520}
LVIDdN	{1.350 - 1.730}
LVPWdN	{0.330 - 0.530} !
IVSsN	{0.430 - 0.710}
LVIDsN	{0.790 - 1.140}
LVPWsN	{0.530 - 0.780} !
Ao Diam N	{0.680 - 0.890} !
LA Diam N	{0.640 - 0.900}

2D

SA LA	cm
Ao Diam	cm
SA LA / Ao Diam	
IVSd	cm
LVIDd	cm
LVPWd	cm
EDV(Teich)	ml
IVSs	cm
LVIDs	cm
LVPWs	cm
ESV(Teich)	ml
EF(Teich)	%
%FS	%
SV(Teich)	ml
LVLd A4C	cm
LVEDV MOD A4C	ml
LVLs A4C	cm
LVESV MOD A4C	ml

B6

LVEF MOD A4C
SV MOD A4C

Doppler

MV E Vel

MV DecT

MV Dec Slope

MVA Vel

MV E/A Ratio

E'

E/E'

A'

S'

AV Vmax

AV maxPG

PV Vmax

PV maxPG

B6

%
ml

m/s

ms

m/s

m/s

m/s

m/s

m/s

m/s

mmHg

m/s

mmHg

Discharge Instructions

Patient

Name: B6

Species: Canine

Brown/White Female (Spayed) English

Bulldog

Birthdate: B6

Owner

Name: B6

Address: B6

Patient ID: B6

Attending Cardiologist:

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

Cardiology Resident:

B6

Cardiology Technician:

B6

Student: B6

Date: 5/8/2019

Diagnoses:

Mild cardiac changes that may be consistent with early arrhythmogenic right ventricular cardiomegaly (ARVC) or associated with nutritional cardiomyopathy - stable to slightly improved from appointment in February 2019

Clinical Findings:

Thank you for bringing B6 in for her three month recheck as a part of the DCM study. You report that B6 has been doing well at home and that you have been giving her Taurine supplement twice a day. Her respiratory rate has been normal and she has had a good energy level at home.

During the appointment today, we performed a recheck echocardiogram (ultrasound of the heart). On the echocardiogram, the structural changes to B6 heart that we had previously seen in February were still present, but are stable to slightly improved. We also used electrocardiogram (EKG) to assess B6 heart rhythm and did not see any arrhythmias. Based on B6 echocardiogram and EKG today, we still do not think that B6 needs any medication at this point. Please continue to give her Taurine supplement twice daily.

We drew a blood sample from B6 for the DCM study and will contact you once we have the results back.

Monitoring at Home:

Please continue to watch B6 at home for any signs such as increased respiratory rate or effort, exercise intolerance or episodes of collapse. If you see any of these signs, please contact a veterinarian.

Diet Suggestions:

Please continue to feed [B6] the Royal Canin Cardiac diet.

Exercise Recommendations:

[B6] may continue her normal exercise at home.

Recommended Medications:

Please continue to give [B6] her Taurine supplement (500 mg by mouth twice daily).

Recheck Visits: We would like to see [B6] for a recheck appointment in 3 months. At this visit we will want to check breathing effort and heart function, do a blood test for the DOM study, and perform a recheck echocardiogram. [B6] will contact you to schedule this appointment once the troponin results are back in a week or so.

Thank you for entrusting us with [B6] care. She is a wonderful dog! Please contact our Cardiology liaison at (508)-887-4696 or email us at cardiovet@tufts.edu for scheduling and non-emergent questions or concerns.

Please visit our HeartSmart website for more information
<http://vet.tufts.edu/heartsmart/>

Prescription Refill Disclaimer:

For the safety and well-being of our patients, your pet must have had an examination by one of our veterinarians within the past year in order to obtain prescription medications.

Ordering Food:

Please check with your primary veterinarian to purchase the recommended diet(s). If you wish to purchase your food from us, please call 7-10 days in advance (508-887-4629) to ensure the food is in stock. Alternatively, veterinary diets can be ordered from online retailers with a prescription/veterinary approval.

Clinical Trials:

Clinical trials are studies in which our veterinary doctors work with you and your pet to investigate a specific disease process or a promising new test or treatment. Please see our website: vet.tufts.edu/cvmc/clinical-studies

Case [B6]

Owner [B6]

Discharge Instructions

From: Rotstein, David </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=0A3B17EBFCF14A6CB8E94F322906BADD-DROTSTEI>
To: Carey, Lauren; Palmer, Lee Anne; Jones, Jennifer L
Sent: 11/8/2018 12:07:21 PM
Subject: **B6** FW: Merrick LID Grain Free dry (salmon: Lisa Freeman - EON-369322
Attachments: 2057941-report.pdf; 2057941-attachments.zip

David Rotstein, DVM, MPVM, Dipl. ACVP
CVM Vet-LIRN Liaison
CVM OSC/DC/CERT
7519 Standish Place

B6 (BB)



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From: PFR Event <ppreventcreation@fda.hhs.gov>
Sent: Thursday, October 25, 2018 7:29 AM
To: Cleary, Michael * <Michael.Cleary@fda.hhs.gov>; HQ Pet Food Report Notification <HQPetFoodReportNotification@fda.hhs.gov> **B6**
Subject: Merrick LID Grain Free dry (salmon: Lisa Freeman - EON-369322

A PFR Report has been received and PFR Event [EON-369322] has been created in the EON System.

A "PDF" report by name "2057941-report.pdf" is attached to this email notification for your reference. Please note that all documents received in the report are compressed into a zip file by name "2057941-attachments.zip" and is attached to this email notification.

Below is the summary of the report:

EON Key: EON-369322
ICSR #: 2057941
EON Title: PFR Event created for Merrick LID Grain Free dry (salmon duck or chicken); 2057941

AE Date	02/09/2018	Number Fed/Exposed	1
Best By Date		Number Reacted	1
Animal Species	Dog	Outcome to Date	Died Euthanized
Breed	Retriever - Labrador		

Age	9 Years		
District Involved	PFR-New England DO		

Product information

Individual Case Safety Report Number: 2057941

Product Group: Pet Food

Product Name: Merrick LID Grain Free dry (salmon, duck, or chicken)

Description: DCM and CHF Euthanized for worsening heart failure and arrhythmia in September

Submission Type: Initial

Report Type: Adverse Event (a symptom, reaction or disease associated with the product)

Outcome of reaction/event at the time of last observation: Died Euthanized

Number of Animals Treated With Product: 1

Number of Animals Reacted With Product: 1

Product Name	Lot Number or ID	Best By Date
Merrick LID Grain Free dry (salmon, duck, or chicken)		

Sender information

Lisa Freeman
 200 Westboro Rd
 North Grafton, MA 01536
 USA

Owner information

B6

To view this PFR Event, please click the link below:

<https://eon.fda.gov/eon//browse/EON-369322>

To view the PFR Event Report, please click the link below:

<https://eon.fda.gov/eon//EventCustomDetailsAction!viewReport.jsps?decorator=none&e=0&issueType=12&issuelid=386244>

=====

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Client:

B6

Address:

B6

All Medical Records

Patient:

B6

Breed:

Labrador Retriever

DOB:

B6

Species: Canine

Sex:

Male

(Neutered)

Referring Information

B6

Initial Complaint:

Emergency

SOAP Text Feb 9 2018 1:21PM - Clinician, Unassigned FHSA

Subjective

NEW VISIT (ER)

Doctor:

B6

Student:

B6

Presenting complaint: Increased lethary and difficulty breathing since last night and this morning

Past pertinent medical history: On Dec 2, brought to rDVM for 2 weeks of diarrhea, coughing/gagging, wheezing lethary and decreased appetite. rDVM preformed bloodwork which came back essentially normal. At this time referred for an AUS which found dilated hepatic vessels along with a murmur, tachycardia, and heart enlargement. He was diagnosed with suspected "early CHF" and started on [B6] but due to concern for elevated kidney values, furosemide was discontinued after about 2 weeks of treatment. He had been doing well at

Client:
Patient:

B6

home until the end of January where he started to have more coughing and gagging, so **B6** was restarted, but at a lower dose (20 mg Q12h).

Medications currently administered at home:

B6

Dietary history:

Type of food: For the past month has been feeding mostly beef and rice (homemade), but prior to that would feed commercial kibble (Blue Buffalo, Canidae) with added home cooked meat (duck and bison)

Travel: Born in **B6** and lived there for 2 years. Moved to **B6** 7 years ago.

Visit is a referral: Yes

Bloodwork/Procedures completed prior to arrival: CBC/Chem in December (see below)

Referred for specific test: Cardiology consult

Subjective (S):

BAR,
BCS:

B6

mm slightly muddy, CRT <2 sec

Objective (O)

B6

DIAGNOSTICS:

B6

12/13/17 (rDVM):

Chem: **B6** remaining values WNL

Client: **B6**
Patient: **B6**

2/9/18 (Tufts):

NOVA: **B6**

PCV/TS: **B6** g/dL

EKG: initial concern for possible a-fib, but more consistent with frequent VPCs/bigeminy

TFAST/AFAST: no pleural, pericardial, or peritoneal effusion; moderate to marked left atrial enlargement with left ventricular dilation and decreased contractility; moderate coalescing B-lines (worse on the right)

Lateral thoracic radiograph: cardiomegaly, no significant pulmonary edema (taken after furosemide administration)

Assessment (A)

A1: Dilated cardiomyopathy with left ventricular wall thinning and chamber dilation, left atrial enlargement, ventricular arrhythmias (frequent VPCs), and increased respiratory effort and muddy gums consistent with congestive heart failure - rule-out idiopathic vs. taurine deficiency vs. other

Plan (P)

B6

TGH following cardiology consult:

ADD taurine, **B6**

B6

recheck with cardiology on 2/21 @ 3:30 pm - will recheck labwork at that time

Client Communication:

Discussed extensively with owner concern for heart failure - very bad MVD vs. more likely DCM given left ventricular dilation that I see and large breed status. Given some respiratory difficulty, **B6**

B6 Prognosis with DCM is 6 months to 1 year depending on if/when arrhythmias develop - risk for sudden death. Owner consented and echocardiogram was consistent with DCM. **B6** is fairly crazy and worked up in hospital. Could not place IVC despite sedation - no real effect on him. Pulmonary edema did not seem significant on radiograph, so recommended owner take him home which she was happy to do. Will supplement with taurine as it is relatively inexpensive and testing taurine levels is **B6**. Cardiology would like to recheck in a couple of weeks - owner ok with recheck time.

CPR status: **B6**

SOAP completed by: ???

SOAP reviewed by: **B6**, DVM, ECC Resident

Initial Complaint:

Recheck **B6** consult done thru ER

SOAP Text Feb 21 2018 5:15PM - **B6**

Client:
Patient:

B6

Initial Complaint:

Nutrition Phone/In person

SOAP Text Feb 22 2018 2:31PM - Freeman, Lisa

Subjective

(See Diet History Form for additional details on diet)

History: DCM and CHF diagnosed Dec 2017, history of chronic intermittent diarrhea for years; evaluated by Tufts Cardiology 2/9/18 and recheck today

Meds:

B6

Current Diet: (See Diet History Form in Documents and comm log for additional information)
Canidae grain free (variable flavors) or Merrick LID grain free (variable flavors)
Approximately 40% of diet comes from other foods - rice, veggies, meat, eggs, cheese, treats

Supplements: Taurine (from Tufts),

B6

Owner Goals: Optimal diet to help manage heart disease and diarrhea

Assessment:

B6

B6

Plan: Modify diet to lower sodium, more nutritional balanced; adjust supplements, treats, table food, medication administration, etc

Initial Complaint:

Emergency

SOAP Text Apr 9 2018 1:47PM - Clinician, Unassigned FHSA

Subjective

NEW VISIT (ER)

Doctor:

B6

Student:

B6

V'18

Presenting complaint: possible arrhythmia

Referral visit? No

Diagnostics completed prior to visit

- Renal profile 4/6/18

HISTORY:

Client: **B6**
Patient: **B6**

Signalment: 8 yo MN Lab

Current history: **B6** was diagnosed in 12/2017 with DCM and CHF (sees cardio), has been managed since then on **B6**. He has been increasingly less tolerant of walks at home, no coughing, not a lot of gagging, but HR and RR have been very high at home. Since 3/27 added **B6** to meds which seemed to have been helping. Yesterday 4/8 after 15 min walk his HR seemed irregular, O was concerned he was having VPCs last night and this morning. His RR this morning was up in the 40s-50s. The O is interested in whether he needs a holter monitor/medication change/echo sooner than when scheduled in May. Had bloodwork at rDVM last week 4/6.

Prior medical history: No other medical issues

Current medications:

B6

Diet: Purina DCM cardiac diet, sometimes poor appetite so mixed with canidae chicken and rice; sometimes cooked veggies

EXAM:

S: BAR, **B6**
O: Wt **B6**

BCS(1-9): **B6**

MCS(normal,mild,moderate,severe): Normal

Hydration: Euhydrated

B6

ASSESSMENT:

A1: DCM

A2: Elevated BUN: r/o secondary to Lasix

PLAN:

P1: ECG

P2: TFAST - evidence of DCM, few small B-lines bilaterally, no PCE

Client: **B6**
Patient:

Diagnostics completed:

4/6/18 rDVM

- Renal chem: **B6**

- ECG: nsf

Diagnostics pending:

Client communication: **B6** appears stable today, sinus arrhythmia but no concerning rhythms that we noticed. Recommended cardiology consultation today and chest x-rays. Offered day ECG monitoring as well. O declined and elected to take home for monitoring and contact Dr. **B6**

Deposit & estimate status:

Resuscitation code (if admitting to ICU):

SOAP approved (DVM to sign): **B6** DVM

Initial Complaint:

Recheck **B6** - DCM protocol

SOAP Text Aug 17 2018 12:44PM **B6**

Initial Complaint:

Nutrition Phone/In person

SOAP Text Aug 27 2018 1:27PM - Freeman, Lisa

Subjective

Nutrition Phone Consult Notes

****PHONE CONSULTATION - NO EXAM PERFORMED****

(See Diet History Form and information from referring veterinarian in Documents for additional details)

History: Dilated cardiomyopathy, congestive heart failure, chronic intermittent diarrhea.

Plan was to change diet at last visit (2/22/18) but **B6** had CHF at that time and wouldn't eat (improved significantly after starting **B6**). Currently eating Merrick LID/Grain Free salmon, duck, or chicken dry + 30-40% of calories from meat, veggies, cheese, carrots, deli meat, peas, pasta, rice, etc

Meds: **B6**

Current Diet: (See Diet History Form in Documents and comm log for additional information)

Supplements: **B6**

Assessment: DCM and CHF - need to change to non-BEG diet asap to see if any improvement in cardiac function is

Client:
Patient:

B6

possible. Also, need to manage GI signs, small kibble size.

Plan: Diet recommendations

****PHONE CONSULTATION - NO EXAM PERFORMED****

Disposition/Recommendations

Client:
Patient:

B6

Client: **B6**
 Patient:



Foster Hospital for Small Animals

55 Willard Street
 North Grafton, MA 01536
 (508) 839-5395

Client: **B6**
 Veterinarian:
 Patient ID: **B6**
 Visit ID:

Patient:	B6
Species:	Canine
Breed:	Labrador Retriever
Sex:	Male (Neutered)
Age:	B6 Years Old

Lab Results Report

Nova Full Panel-ICU 2/9/2018 7:02:25 PM Accession ID: **B6**

Test	Results	Reference Range	Units
SO2%	B6	94 - 100	%
HCT (POC)		38 - 48	%
HB (POC)		12.6 - 16	g/dL
NA (POC)		140 - 154	mmol/L
K (POC)		3.6 - 4.8	mmol/L
CL(POC)		109 - 120	mmol/L
CA (ionized)		1.17 - 1.38	mmol/L
MG (POC)		0.1 - 0.4	mmol/L
GLUCOSE (POC)		80 - 120	mg/dL
LACTATE		0 - 2	mmol/L
BUN (POC)		12 - 28	mg/dL
CREAT (POC)		0.2 - 2.1	mg/dL
TCO2 (POC)		0 - 0	mmol/L
nCA		0 - 0	mmol/L
nMG		0 - 0	mmol/L
GAP		0 - 0	mmol/L
CA/MG		0 - 0	mol/mol
BEeef		0 - 0	mmol/L
BEb	0 - 0	mmol/L	
A	0 - 0	mmHg	
NOVA SAMPLE	0 - 0		



Client: **B6**
 Patient: **B6**

FiO2	B6	0 - 0	%
PCO2		36 - 44	mmHg
PO2		80 - 100	mmHg
PH		7.337 - 7.467	
PCO2		36 - 44	mmHg
PO2		80 - 100	mmHg
HCO3		18 - 24	mmol/L

Nova Full Panel-ICU **2/9/2018 7:08:32 PM** **Accession ID: B6**

Test	Results	Reference Range	Units
TS (FHSA)	B6	0 - 0	g/dl
PCV **		0 - 0	%
TS (FHSA)		0 - 0	g/dl

Nova Full Panel-ICU **2/21/2018 5:16:21 PM** **Accession ID: B6**

Test	Results	Reference Range	Units
GLUCOSE	B6	67 - 135	mg/dL
UREA		8 - 30	mg/dL
CREATININE		0.6 - 2	mg/dL
PHOSPHORUS		2.6 - 7.2	mg/dL
CALCIUM2		9.4 - 11.3	mg/dL
T. PROTEIN		5.5 - 7.8	g/dL
ALBUMIN		2.8 - 4	g/dL
GLOBULINS		2.3 - 4.2	g/dL
A/G RATIO		0.7 - 1.6	
SODIUM		140 - 150	mEq/L
CHLORIDE		106 - 116	mEq/L
POTASSIUM		3.7 - 5.4	mEq/L
NA/K		29 - 40	
T BILIRUBIN		0.1 - 0.3	mg/dL
D.BILIRUBIN		0 - 0.1	mg/dL
I BILIRUBIN		0 - 0.2	mg/dL
ALK PHOS		12 - 127	U/L
ALT		14 - 86	U/L
AST		9 - 54	U/L
CHOLESTEROL		82 - 355	mg/dL
OSMOLALITY (CALCULATED)		291 - 315	mmol/L
COMMENTS (CHEMISTRY)		0 - 0	

Nova Full Panel-ICU **8/17/2018 12:45:20 PM** **Accession ID: B6**

Test	Results	Reference Range	Units
GLUCOSE	B6	67 - 135	mg/dL
UREA		8 - 30	mg/dL



Client: **B6**
Patient:

CREATININE	B6	0.6 - 2	mg/dL
PHOSPHORUS		2.6 - 7.2	mg/dL
CALCIUM2		9.4 - 11.3	mg/dL
T. PROTEIN		5.5 - 7.8	g/dL
ALBUMIN		2.8 - 4	g/dL
GLOBULINS		2.3 - 4.2	g/dL
A/G RATIO		0.7 - 1.6	
SODIUM		140 - 150	mEq/L
CHLORIDE		106 - 116	mEq/L
POTASSIUM		3.7 - 5.4	mEq/L
NA/K		29 - 40	
T BILIRUBIN		0.1 - 0.3	mg/dL
D.BILIRUBIN		0 - 0.1	mg/dL
I BILIRUBIN		0 - 0.2	mg/dL
ALK PHOS		12 - 127	U/L
ALT		14 - 86	U/L
AST		9 - 54	U/L
CHOLESTEROL	82 - 355	mg/dL	
OSMOLALITY (CALCULATED)	291 - 315	mmol/L	



11/73

B6

Printed Thursday, October 25, 2018

Client: **B6**
Patient: **B6**

RDVM: **B6** lab results 11/30/17-12/13/17

B6

B4, B6

Order #	Ref #	Service Code	Brand / Category	Sex / CV	Ref Age (Y)	Unit
B6	B6					
Basic Panel		Complete Blood Count				
Test	Result	Ref. Range	Unit	Test	Result	Ref. Range
Total Protein	B6	7.0-11.0	g/dL	WBC	B6	4.1-10.5
Albumin	B6	3.5-5.5	g/dL	HGB	B6	12.0-16.0
Bilirubin	B6	0.1-1.2	mg/dL	Hematocrit	B6	37-47
Urea Nitrogen	B6	7-20	mg/dL	Platelets	B6	150-400
ALT (SGPT)	B6	10-40	U/L	MCV	B6	86-106
AST (SGOT)	B6	10-40	U/L	MCH	B6	27-34
Alkaline Phosphatase	B6	44-128	U/L	MCHC	B6	32-36
Gamma-GT	B6	0-37	U/L	Platelet Count	B6	175-400
Total Cholesterol	B6	0-200	mg/dL	Platelet CT	B6	
LDL Cholesterol	B6	0-130	mg/dL	Differential	B6	
HDL Cholesterol	B6	20-160	mg/dL	Neutrophils	B6	
Triglycerides	B6	0-160	mg/dL	Lymphocytes	B6	
Calcium	B6	8.8-10.4	mg/dL	Monocytes	B6	
Uric Acid	B6	2.4-6.8	mg/dL	Eosinophils	B6	
Glucose	B6	70-100	mg/dL	Basophils	B6	
Phosphorus	B6	2.5-4.5	mg/dL	Neutrophils	B6	
Sodium	B6	135-145	mmol/L			
Potassium	B6	3.5-5.0	mmol/L			
Chloride	B6	95-105	mmol/L			
CO2	B6	23-31	mmol/L			
Protein	B6	6.0-10.0	g/dL			
Albumin	B6	3.5-5.5	g/dL			
Bilirubin	B6	0.1-1.2	mg/dL			
Urea Nitrogen	B6	7-20	mg/dL			
ALT (SGPT)	B6	10-40	U/L			
AST (SGOT)	B6	10-40	U/L			
Alkaline Phosphatase	B6	44-128	U/L			
Gamma-GT	B6	0-37	U/L			
Total Cholesterol	B6	0-200	mg/dL			
LDL Cholesterol	B6	0-130	mg/dL			
HDL Cholesterol	B6	20-160	mg/dL			
Triglycerides	B6	0-160	mg/dL			
Calcium	B6	8.8-10.4	mg/dL			
Uric Acid	B6	2.4-6.8	mg/dL			
Glucose	B6	70-100	mg/dL			
Phosphorus	B6	2.5-4.5	mg/dL			
Sodium	B6	135-145	mmol/L			
Potassium	B6	3.5-5.0	mmol/L			
Chloride	B6	95-105	mmol/L			
CO2	B6	23-31	mmol/L			
Protein	B6	6.0-10.0	g/dL			
Albumin	B6	3.5-5.5	g/dL			
Bilirubin	B6	0.1-1.2	mg/dL			
Urea Nitrogen	B6	7-20	mg/dL			
ALT (SGPT)	B6	10-40	U/L			
AST (SGOT)	B6	10-40	U/L			
Alkaline Phosphatase	B6	44-128	U/L			
Gamma-GT	B6	0-37	U/L			
Total Cholesterol	B6	0-200	mg/dL			
LDL Cholesterol	B6	0-130	mg/dL			
HDL Cholesterol	B6	20-160	mg/dL			
Triglycerides	B6	0-160	mg/dL			
Calcium	B6	8.8-10.4	mg/dL			
Uric Acid	B6	2.4-6.8	mg/dL			
Glucose	B6	70-100	mg/dL			
Phosphorus	B6	2.5-4.5	mg/dL			
Sodium	B6	135-145	mmol/L			
Potassium	B6	3.5-5.0	mmol/L			
Chloride	B6	95-105	mmol/L			
CO2	B6	23-31	mmol/L			
Protein	B6	6.0-10.0	g/dL			
Albumin	B6	3.5-5.5	g/dL			
Bilirubin	B6	0.1-1.2	mg/dL			
Urea Nitrogen	B6	7-20	mg/dL			
ALT (SGPT)	B6	10-40	U/L			
AST (SGOT)	B6	10-40	U/L			
Alkaline Phosphatase	B6	44-128	U/L			
Gamma-GT	B6	0-37	U/L			
Total Cholesterol	B6	0-200	mg/dL			
LDL Cholesterol	B6	0-130	mg/dL			
HDL Cholesterol	B6	20-160	mg/dL			
Triglycerides	B6	0-160	mg/dL			
Calcium	B6	8.8-10.4	mg/dL			
Uric Acid	B6	2.4-6.8	mg/dL			
Glucose	B6	70-100	mg/dL			
Phosphorus	B6	2.5-4.5	mg/dL			
Sodium	B6	135-145	mmol/L			
Potassium	B6	3.5-5.0	mmol/L			
Chloride	B6	95-105	mmol/L			
CO2	B6	23-31	mmol/L			
Protein	B6	6.0-10.0	g/dL			
Albumin	B6	3.5-5.5	g/dL			
Bilirubin	B6	0.1-1.2	mg/dL			
Urea Nitrogen	B6	7-20	mg/dL			
ALT (SGPT)	B6	10-40	U/L			
AST (SGOT)	B6	10-40	U/L			
Alkaline Phosphatase	B6	44-128	U/L			
Gamma-GT	B6	0-37	U/L			
Total Cholesterol	B6	0-200	mg/dL			
LDL Cholesterol	B6	0-130	mg/dL			
HDL Cholesterol	B6	20-160	mg/dL			
Triglycerides	B6	0-160	mg/dL			
Calcium	B6	8.8-10.4	mg/dL			
Uric Acid	B6	2.4-6.8	mg/dL			
Glucose	B6	70-100	mg/dL			
Phosphorus	B6	2.5-4.5	mg/dL			
Sodium	B6	135-145	mmol/L			
Potassium	B6	3.5-5.0	mmol/L			
Chloride	B6	95-105	mmol/L			
CO2	B6	23-31	mmol/L			
Protein	B6	6.0-10.0	g/dL			
Albumin	B6	3.5-5.5	g/dL			
Bilirubin	B6	0.1-1.2	mg/dL			
Urea Nitrogen	B6	7-20	mg/dL			
ALT (SGPT)	B6	10-40	U/L			
AST (SGOT)	B6	10-40	U/L			
Alkaline Phosphatase	B6	44-128	U/L			
Gamma-GT	B6	0-37	U/L			
Total Cholesterol	B6	0-200	mg/dL			
LDL Cholesterol	B6	0-130	mg/dL			
HDL Cholesterol	B6	20-160	mg/dL			
Triglycerides	B6	0-160	mg/dL			
Calcium	B6	8.8-10.4	mg/dL			
Uric Acid	B6	2.4-6.8	mg/dL			
Glucose	B6	70-100	mg/dL			
Phosphorus	B6	2.5-4.5	mg/dL			
Sodium	B6	135-145	mmol/L			
Potassium	B6	3.5-5.0	mmol/L			
Chloride	B6	95-105	mmol/L			
CO2	B6	23-31	mmol/L			
Protein	B6	6.0-10.0	g/dL			
Albumin	B6	3.5-5.5	g/dL			
Bilirubin	B6	0.1-1.2	mg/dL			
Urea Nitrogen	B6	7-20	mg/dL			
ALT (SGPT)	B6	10-40	U/L			
AST (SGOT)	B6	10-40	U/L			
Alkaline Phosphatase	B6	44-128	U/L			
Gamma-GT	B6	0-37	U/L			
Total Cholesterol	B6	0-200	mg/dL			
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HDL Cholesterol	B6	20-160	mg/dL			
Triglycerides	B6	0-160	mg/dL			
Calcium	B6	8.8-10.4	mg/dL			
Uric Acid	B6	2.4-6.8	mg/dL			
Glucose	B6	70-100	mg/dL			
Phosphorus	B6	2.5-4.5	mg/dL			
Sodium	B6	135-145	mmol/L			
Potassium	B6	3.5-5.0	mmol/L			
Chloride	B6	95-105	mmol/L			
CO2	B6	23-31	mmol/L			
Protein	B6	6.0-10.0	g/dL			
Albumin	B6	3.5-5.5	g/dL			
Bilirubin	B6	0.1-1.2	mg/dL			
Urea Nitrogen	B6	7-20	mg/dL			
ALT (SGPT)	B6	10-40	U/L			
AST (SGOT)	B6	10-40	U/L			
Alkaline Phosphatase	B6	44-128	U/L			
Gamma-GT	B6	0-37	U/L			
Total Cholesterol	B6	0-200	mg/dL			
LDL Cholesterol	B6	0-130	mg/dL			
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Calcium	B6	8.8-10.4	mg/dL			
Uric Acid	B6	2.4-6.8	mg/dL			
Glucose	B6	70-100	mg/dL			
Phosphorus	B6	2.5-4.5	mg/dL			
Sodium	B6	135-145	mmol/L			
Potassium	B6	3.5-5.0	mmol/L			
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Glucose	B6	70-100	mg/dL			
Phosphorus	B6	2.5-4.5	mg/dL			
Sodium	B6	135-145	mmol/L			
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Protein	B6	6.0-10.0	g/dL			
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Bilirubin	B6	0.1-1.2	mg/dL			
Urea Nitrogen	B6	7-20	mg/dL			
ALT (SGPT)	B6	10-40	U/L			
AST (SGOT)	B6	10-40	U/L			
Alkaline Phosphatase	B6	44-128	U/L			
Gamma-GT	B6	0-37	U/L			
Total Cholesterol	B6	0-200	mg/dL			
LDL Cholesterol	B6	0-130	mg/dL			
HDL Cholesterol	B6	20-160	mg/dL			
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Calcium	B6	8.8-10.4	mg/dL			
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Glucose	B6	70-100	mg/dL			
Phosphorus	B6	2.5-4.5	mg/dL			
Sodium	B6	135-145	mmol/L			
Potassium	B6	3.5-5.0	mmol/L			
Chloride	B6	95-105	mmol/L			
CO2	B6	23-31	mmol/L			
Protein	B6	6.0-10.0	g/dL			
Albumin	B6	3.5-5.5	g/dL			
Bilirubin	B6	0.1-1.2	mg/dL			
Urea Nitrogen	B6	7-20	mg/dL			
ALT (SGPT)	B6	10-40	U/L			
AST (SGOT)	B6	10-40	U/L			
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Calcium	B6	8.8-10.4	mg/dL			
Uric Acid	B6	2.4-6.8	mg/dL			
Glucose	B6	70-100	mg/dL			
Phosphorus	B6	2.5-4.5	mg/dL			
Sodium	B6	135-145	mmol/L			
Potassium	B6	3.5-5.0	mmol/L			
Chloride	B6	95-105	mmol/L			
CO2	B6	23-31	mmol/L			
Protein	B6	6.0-10.0	g/dL			
Albumin	B6	3.5-5.5	g/dL			
Bilirubin	B6	0.1-1.2	mg/dL			

Client: **B6**
Patient:

RDVN **B4, B6** lab results 11/30/17-12/13/17

B4, B6

Test Required	Results	Reference Range	Units
Alkaline Phosphatase	B6	35-74	U/L
Aspartate Aminotransferase	B6	0-37	U/L
Bilirubin	B6	0.1-1.2	mg/dL
Alanine Aminotransferase	B6	0-40	U/L
Gamma-GT	B6	0-31	U/L
Cholesterol	B6	0-200	mg/dL
Triglycerides	B6	0-160	mg/dL
HDL Cholesterol	B6	35-115	mg/dL
LDL Cholesterol	B6	0-160	mg/dL
Total Protein	B6	6.0-8.3	g/dL
Albumin	B6	3.5-5.0	g/dL
Creatinine	B6	0.6-1.2	mg/dL
BUN	B6	7-20	mg/dL
Urea Nitrogen	B6	7-20	mg/dL

B4, B6

Client: **B6**
Patient:

Diet History Form

Client Diet History Form

Submitted: 2021-02-18

PET INFORMATION

Pet Name: **B6**
Pet Last Name: **B6**
Pet Species/Breed: Dog / Labrador Retriever
Pet's Color: Black
Pet's Birthdate: **B6**
Pet's Sex: Male
Spayed or Neutered? Yes

CLIENT INFORMATION

Client Name: **B6**
Client Address: **B6**
Client Phone: **B6**
Client Email: **B6**
Co-Owner Name: **B6**
Co-Owner Phone: **B6**
Co-Owner Email: **B6**

CONSULT INFORMATION

Type of Consult: **B6**
HCD Being Requested? **B6**
Reasons & Goals for Consult: **B6**

Attachments:

PRIMARY VETERINARIAN INFORMATION

(DVM) Name: **B6**
(DVM) Clinic: **B6**
(DVM) Phone: **B6**
(DVM) Fax: **B6**
(DVM) Email: **B6**

Client:
Patient:

B6

Diet History Form

B6

Client:
Patient:

B6

Diet History Form

B6

Client: **B6**
Patient:

Diet History Form

B6

Client:
Patient:

B6

Diet History Form

B6

Client:
Patient:

B6

Diet History Form

B6

Client: **B6**
Patient:

Diet History Form

B6

Client:
Patient:

B6

Diet History Form

B6

Client:
Patient:

B6

Nutrition appointment report 2-22-18

Clinical Nutrition Service
Foster Hospital for Small Animals
200 Westboro Road
North Grafton, MA 01536
Phone: (508) 897-4600 ADH, Nutrition Liaison
Fax: (508) 897-4242
www.cummingsvet.com
nutrition@cumvms.com

Cummings
Veterinary Medical Center
ST TAPPA UNIVERSITY

Nutrition Consultation

B6

Client: Howe, Susan
Patient: Riley

Nutrition appointment report 2-22-18

B6

Client:
Patient:

B6

Nutrition appointment report 2-22-18

B6

Client: **B6**
Patient:

Nutrition appointment report 2-22-18

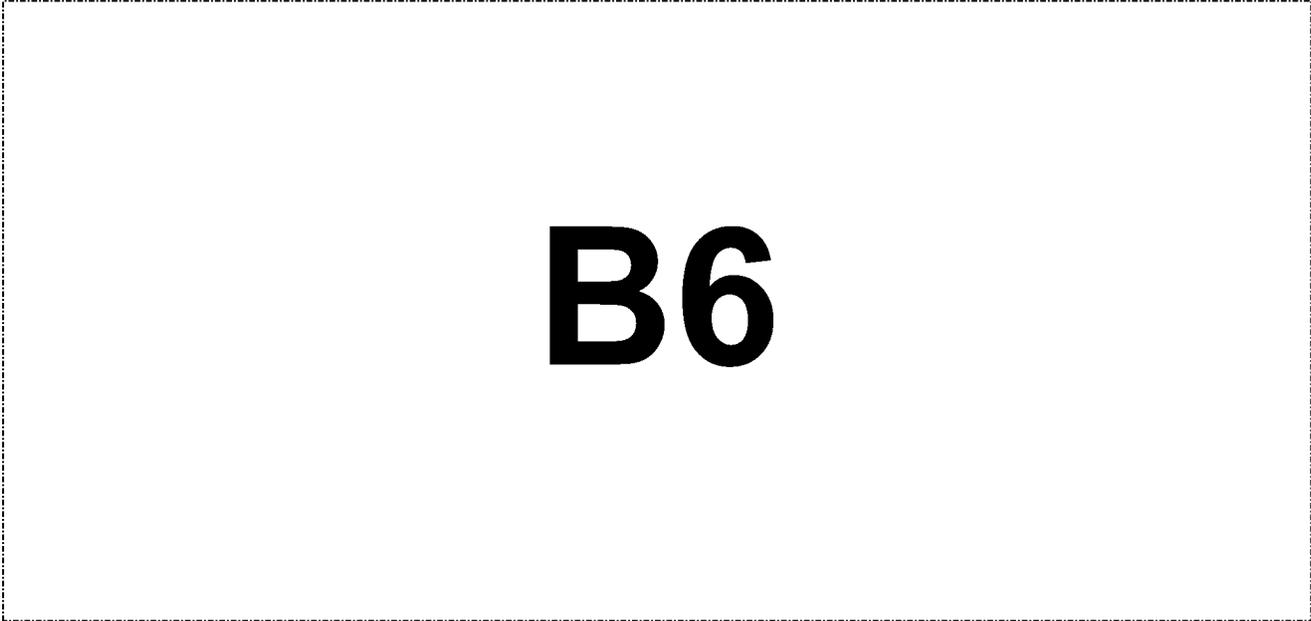
B6

Sincerely,

Lisa M. Freeman, DVM, PhD, DACVN
Professor, Clinical Nutrition
508-887-4886 (telephone)
vfnutrition@tufts.edu (email)
www.tufts.edu/vfnutrition

Client: **B6**
Patient:

3/6/18 e-mail from client with spreadsheet



[Faint, illegible text from a spreadsheet or document, likely representing the data mentioned in the header.]

Client:
Patient:

B6

B6

abs 3/8/18-CBC/Chem

B6

B6

Client
Patient

B6

RDVM

B6

results 4/6/18

B6

Client:
Patient:

B6

rDVM:

B6

labs 5/8/18

B6

Page 6

FOIA

For more information please visit www.fda.gov/foia

Client:
Patient:

B6

Nutrition consultation 8-27-18

Clinical Nutrition Service
Foster Hospital for Small Animals
200 Westboro Road
North Dartmouth, MA 01906
Phone: (508) 897-4900 (ADN Nutrition Liaison)
Fax: (508) 897-4303
www.veterinarynutrition.com
vetnutrition@tufts.edu

Cummings
Veterinary Medical Center
ST TUFTS UNIVERSITY

Nutrition Consultation

B6

Client: **B6**
Patient:

Nutrition consultation 8-27-18

B6

Client:
Patient:

B6

Nutrition consultation 8-27-18

B6

Client:
Patient:

B6

Nutrition consultation 8-27-18

B6

Sincerely,

Lisa M. Freeman, DVM, PhD, DACVP
Professor, Clinical Nutrition
508.887.4590 (telephone)
wlfnutrition@tufts.edu (email)
www.lutheofitofda.org

Client:
Patient:

B6

Lab Results 12/2/17 - 8/18/18

B6

Client: **B6**
Patient:

Lab Results 12/2/17 - 8/18/18

B6

Client:
Patient:

B6

RDVM/

B6

Practice Renal Profile 6/9/18

B6

B6

Client:
Patient:

B6

Email from owner 9/11/18

B6

Client: **B6**
Patient:

Email from owner 9/11/18

B6

2

B6

Client:
Patient:

B6

Vitals Results

2/9/2018 3:12:22 PM
2/9/2018 3:12:23 PM
2/9/2018 3:12:24 PM
2/9/2018 3:12:25 PM
2/9/2018 3:41:50 PM
2/9/2018 3:52:17 PM
2/9/2018 4:29:58 PM
2/9/2018 6:21:42 PM
2/9/2018 6:31:58 PM
2/9/2018 6:57:57 PM
2/9/2018 7:55:28 PM
2/9/2018 7:57:28 PM
2/22/2018 5:37:36 PM
2/22/2018 5:37:37 PM
2/22/2018 5:37:38 PM
4/9/2018 1:30:52 PM
4/9/2018 1:30:53 PM
4/9/2018 1:30:54 PM
4/9/2018 1:30:55 PM
8/17/2018 12:16:11 PM
8/27/2018 1:27:16 PM
8/27/2018 1:27:17 PM
8/27/2018 1:27:18 PM

B6

Client:
Patient:

B6

ECG from Cardio

B6

02/22/2018 4:18:10 PM Page 3 of 8
Title: [redacted]
Full Discharge Summary of the [redacted]
[redacted]

B6

Client:
Patient:

B6

ECG from Cardio

B6

01/23/2019 4:18:10 PM Page 1 of 8
TAKA (Company)
FDA (Single Point of Contact)
1/23/2019

B6

Client:
Patient:

B6

ECG from Cardio

B6

000000-418000-000
TAKA (Company)
Redacted Name of the User
000000

B6

Client: **B6**
Patient:

ECG from Cardio

B6

02/20/2018 4:18:39 AM Page 3 of 8
Total Records: 1
Total Storage Used of the Day: 1000000

B6

Client: **B6**
Patient:

ECG from Cardio

B6

01/23/2019 4:18:39 AM Page 2 of 8
Title: Summary;
Redacted Content of the Report
01/23/2019

B6

Client:
Patient:

B6

ECG 2/9/18

B6

Client:
Patient:

B6

ECG 2/9/18

B6

Client:
Patient:

B6

ECG 4/9/18

B6

Client:
Patient:

B6

ECG from cardio

B6

WELLS RICHMOND BANK, INC. Report 8/14/18
Federal Reserve Bank of Dallas
Dallas, Texas 75201-1000
www.wellsrichmond.com

B6

Client:
Patient:

B6

ECG from cardio

B6

WELLS RICHMOND BANK, INC. Page 2 of 4
Federal Reserve
Member FDIC
12/31/2018

B6

Client: **B6**
Patient: **B6**

ECG from cardio

B6

WELLS RICHMOND COLLEGE
Public University
Public Knowledge (www.wrc.edu)

B6

Client:
Patient:

B6

ECG from cardio

B6

WELLS RICHMOND COLLEGE
100 W. WASHINGTON ST.
MILWAUKEE, WI 53233
(414) 224-1000

B6

Client: **B6**
Patient:

ECG from cardio

B6

WELLS RICHMOND ELECTRONICS, INC.
10000 WOODBRIDGE AVENUE
DALLAS, TEXAS 75244-1000
(972) 241-1000

B6

Client: **B6**
Patient

ECG from cardio

B6

WILSON JONES, MD
Medical Director
Medical Director, Division of Cardiology
12/11/2018

B6

Client: **B6**
Patient: **B6**

ECG from cardio

B6

WELLS RICHMOND BANK, N.A. Page 2 of 4
Member FDIC
Equal Housing Lender
Member SBA 504 Lender

B6

Client:
Patient:

B6

ECG from cardio

B6

WILSON JONES CONSULTING, INC.
10000 Wilshire Blvd, Suite 1000
Beverly Hills, CA 90210
(310) 274-1111
www.wilsonjones.com

B6

Client:
Patient:

B6

ECG from cardio

B6

WILSON JONES, MD
Medical Director
North Carolina School of Public Health
12017000

B6

Client:
Patient:

B6

ECG from cardio

B6

WELLS RICHMOND COLLEGE
Public University
WELLS RICHMOND COLLEGE
12000

B6

Client:
Patient:

B6

ECG from cardio

B6

WELLS RICHMOND COLLEGE
Total University
Total University
Total University

B6

Client:
Patient:

B6

Patient History

02/09/2018 01:17 PM
02/09/2018 02:50 PM
02/09/2018 02:50 PM
02/09/2018 02:57 PM

02/09/2018 03:05 PM
02/09/2018 03:12 PM
02/09/2018 03:12 PM
02/09/2018 03:12 PM
02/09/2018 03:12 PM
02/09/2018 03:16 PM
02/09/2018 03:41 PM
02/09/2018 03:41 PM
02/09/2018 03:41 PM
02/09/2018 03:52 PM
02/09/2018 03:52 PM
02/09/2018 04:25 PM
02/09/2018 04:29 PM

02/09/2018 04:29 PM
02/09/2018 05:23 PM

02/09/2018 05:24 PM
02/09/2018 05:32 PM
02/09/2018 05:33 PM
02/09/2018 05:33 PM
02/09/2018 05:34 PM

02/09/2018 06:02 PM
02/09/2018 06:02 PM
02/09/2018 06:04 PM

02/09/2018 06:04 PM

02/09/2018 06:21 PM
02/09/2018 06:21 PM
02/09/2018 06:31 PM
02/09/2018 06:31 PM
02/09/2018 06:57 PM
02/09/2018 06:57 PM
02/09/2018 07:02 PM
02/09/2018 07:02 PM
02/09/2018 07:06 PM
02/09/2018 07:08 PM
02/09/2018 07:10 PM
02/09/2018 07:15 PM

B6

Client:
Patient:

B6

Patient History

02/09/2018 07:46 PM
02/09/2018 07:55 PM
02/09/2018 07:55 PM
02/09/2018 07:57 PM
02/09/2018 07:57 PM
02/18/2018 04:25 PM

02/21/2018 03:34 PM
02/21/2018 04:07 PM
02/21/2018 04:59 PM

02/21/2018 05:15 PM
02/21/2018 06:05 PM
02/22/2018 10:49 AM

02/22/2018 02:32 PM
02/22/2018 02:33 PM
02/22/2018 05:37 PM
02/22/2018 05:37 PM
02/22/2018 05:37 PM

02/23/2018 11:03 AM
02/23/2018 11:04 AM
03/02/2018 09:53 AM
04/09/2018 01:30 PM
04/09/2018 01:30 PM
04/09/2018 01:30 PM
04/09/2018 01:30 PM
04/09/2018 03:22 PM
04/09/2018 03:38 PM
04/09/2018 03:38 PM
04/09/2018 03:39 PM
04/10/2018 03:25 AM
05/04/2018 12:42 PM

05/04/2018 12:42 PM

08/08/2018 07:27 PM

08/17/2018 11:29 AM
08/17/2018 11:39 AM

08/17/2018 12:09 PM
08/17/2018 12:09 PM
08/17/2018 12:10 PM
08/17/2018 12:16 PM
08/17/2018 12:29 PM

08/17/2018 12:45 PM

B6

Client:
Patient:

B6

Patient History

08/17/2018 01:00 PM
08/17/2018 01:14 PM

08/17/2018 01:17 PM
08/17/2018 01:21 PM
08/21/2018 02:42 PM

08/27/2018 09:16 AM
08/27/2018 11:17 AM

08/27/2018 01:27 PM
08/27/2018 01:27 PM

08/27/2018 01:27 PM
10/23/2018 03:01 PM

B6

Cummings
Veterinary Medical Center
AT TUFTS UNIVERSITY

Forster Hospital for Small Animals
55 Willard Street
North Grafton, MA 01526
Telephone (508) 829-5295
Fax (508) 829-7951
<http://vetmed.tufts.edu/>

B6

B6

Male (Neutered)

Color: Labrador Retriever: Black

B6

B6

Dear Dr. **B6**

Thank you for referring **B6** with their pet **B6**

B6

Please see attached discharge instructions for additional details as needed. If you have any questions, or concerns, please contact us at 508-827-4331.

Thank you,

B6

(Resident, Emergency & Critical Care)

Cummings
Veterinary Medical Center
AT TUFTS UNIVERSITY

Forster Hospital for Small Animals
55 Willard Street
North Grafton, MA 01526
Telephone (508) 829-5295
Fax (508) 829-7951
<http://vetmed.tufts.edu/>

B6

B6

Male (Neutered)

Color: Labrador Retriever: Black

B6

B6

Dear Dr. **B6**

Thank you for referring **B6** with their pet **B6**

If you have any questions, or concerns, please contact us at 508-827-1981.

Thank you,

B6 DVM, DACVP (Cardiology), PhD

Cummings
Veterinary Medical Center
AT TUFTS UNIVERSITY

Forster Hospital for Small Animals
55 Willard Street
North Grafton, MA 01526
Telephone (508) 829-5295
Fax (508) 829-7951
<http://vetmed.tufts.edu/>

B6

B6

Male (Neutered)

Gender: Labrador Retriever Black

B6

B6

Dear Dr. **B6**

Thank you for referring **B6** with their pet **B6**

Please see the attached discharge letter.

If you have any questions, or concerns, please contact us at 508-827-1981.

Thank you.

B6 (SAM Rotating Intern)

Cummings
Veterinary Medical Center
AT TUFTS UNIVERSITY

Forster Hospital for Small Animals
55 Willard Street
North Grafton, MA 01526
Telephone (508) 829-5295
Fax (508) 829-7951
<http://vetmed.tufts.edu/>

B6

B6

Male (Neutered)

Breed: Labrador Retriever - Black

B6

B6

Dear Dr. **B6**

Thank you for referring **B6** with their pet **B6**

If you have any questions, or concerns, please contact us at 508-827-1981.

Thank you,

B6 DVM, DACVP (Cardiology), PhD

Cummings Veterinary Medical Center

AT TUFTS UNIVERSITY
Cardiology Liaison: 508-887-4696

B6

Patient ID: **B6**

B6

Canine

B6

Years Old Male Great Dane

Fawn BW: Weight(lbs) 0.00

Cardiology Inpatient

Date: 2/20/2018

Weight: Weight(lbs) 82kg

Attending Cardiologist:

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

Cardiology Resident:

B6

Thoracic radiographs available for review?

- Yes - in SS
- Yes - in PACS
- No

Presenting complaint and important concurrent diseases:

collapse, lethargy, hyporexia, suspected A-fib at rDVM

Current medications and doses:

one dose of lasix IV yesterday, no other meds

Key indication for consultation:

suspect DCM, A-fib, RCHF

Questions to be answered from the Consult:

confirm above, long term prognosis

Is your consult time-sensitive? (e.g., anesthesia today, owner waiting, trying to get biopsy today)

- Yes (explain) - owners waiting
- No

STOP - remainder of form to be filled out by Cardiology

Physical Examination

B6

Muscle condition:

- Normal
- Mild muscle loss
- Moderate cachexia
- Marked cachexia

Cardiovascular Physical Exam

Murmur Grade:

- None
- I/VI
- II/VI
- III/VI
- IV/VI
- V/VI
- VI/VI

Murmur location/description: systolic left apical

Jugular vein:

- Bottom 1/3 of neck
- Middle 1/3 of neck
- Top 2/3 of neck

Arterial pulses:

- Weak
- Fair
- Good
- Strong
- Bounding
- Pulse deficits
- Pulsus paradoxus
- Other (describe):

Arrhythmia:

- None
- Sinus arrhythmia
- Premature beats
- Bradycardia
- Tachycardia, irregular

Gallop:

- Yes
- No
- Intermittent
- Pronounced
- Other:

Pulmonary assessments:

- Eupneic
- Mild dyspnea
- Marked dyspnea
- Normal BV sounds
- Pulmonary Crackles
- Wheezes
- Upper airway stridor
- Other auscultatory findings:

Abdominal exam:

- Normal
- Hepatomegaly
- Abdominal distension
- Mild ascites

Echocardiogram Findings:

General/2-D findings:

Echocardiogram performed with patient standing

B6

Doppler findings:

B6

Mitral inflow: **B6**

ECG findings:

B6

Radiographic findings:

Ideally recommend obtaining

Assessment and recommendations:

Echocardiogram reveals severe DCM with moderate secondary LAE, and EKG reveals atrial fibrillation with rapid ventricular response rate. Changes are consistent with CHF being the cause for effusions and trouble breathing. The collapse episode could be related to CHF or intermittent more severe arrhythmia.

B6

B6 Recommend **B6**

B6 Ideally the patient would be hospitalized for monitoring with telemetry and titration of medication doses. Recommend submitting baseline blood work, and ideally thoracic radiographs (could be done standing in large animal if needed). Recheck renal values, digoxin level 6-8 hours post pill, fluid check, and ECG in 7-10 days. Recheck echo/fluid check in ~3 months, or sooner if clinical sign occur such as increased RR/RE, cough, collapse, or exercise intolerance.

Addendum: Patient appears more comfortable, but HR is still elevated. Recommend increasing ER to 150mg PO BID. **B6**

Diet - Taste of the Wild High Prairie (buffalo/lamb/chicken). Owners plan to change diet.

Treatment plan:

B6

Final Diagnosis:

DCM, CHF
Atrial fibrillation with rapid ventricular response rate

Heart Failure Classification Score:

ISACHC Classification:

- Ia
- Ib
- IIIa
- IIIb

II

ACVIM CHF Classification:

- A
- B1
- B2

- C
- D

M-Mode

IVSd

LVIDd

LVPWd

IVSs

LVIDs

LVPWs

%FS

Ao Diam

LA Diam

LA/Ao

Max LA

EPSS

M-Mode Normalized

IVSdN

LVIDdN

LVPWdN

IVSsN

LVIDsN

LVPWsN

Ao Diam N

LA Diam N

2D

SA LA

Ao Diam

SA LA / Ao Diam

IVSd

LVIDd

LVPWd

EDV(Teich)

IVSs

LVIDs

LVPWs

ESV(Teich)

EF(Teich)

%FS

SV(Teich)

LVLd LAX

LVAd LAX

LVEDV A-L LAX

LVEDV MOD LAX

B6

B6

cm

cm

cm

cm

cm

cm

%

cm

cm

cm

cm

{0.29 - 0.52}

{1.35 - 1.73} !

{0.33 - 0.53}

{0.43 - 0.71} !

{0.79 - 1.14} !

{0.53 - 0.78} !

{0.68 - 0.89} !

{0.64 - 0.90} !

cm

cm

cm

cm

cm

ml

cm

cm

cm

ml

%

%

ml

cm

cm

ml

ml

LVLs LAX
LVA_s LAX
LV_{BSV} A-L LAX
LV_{BSV} MOD LAX
HR
EF A-L LAX
LVEF MOD LAX
SV A-L LAX
SV MOD LAX
CO A-L LAX
CO MOD LAX

B6

cm
cm
ml
ml
BPM
%
%
ml
ml
l/min
l/min

Doppler
MR Vmax
MR maxPG
MVE Vel
AV Vmax
AV maxPG
TR Vmax
TR maxPG
Time
HR

B6

m/s
mmHg
m/s
m/s
mmHg
m/s
mmHg
ms
BPM

B6

Patient ID: B6
B6 Canine
Years Old Male Great Dane
Fawn

Cardiology Appointment Report

Date: 4/12/2018

Attending Cardiologist:

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

Cardiology Resident:

B6

Cardiology Technician:

B6

Student: B6 V19

Presenting Complaint: Recheck visit for fluid check and kidney values. Owners had no new concerns.

Concurrent Diseases: DCM, CHF, A fib

General Medical History:

Diagnosed with DCM and CHF and A fib 02/20/18 following episode of collapse and increased respiratory rate

Doing really well - overall good energy, just normal old big dog slowing down. Jumps up into back of truck no problem.

Owner noticed slight bulging out of left flank. Slight tremor in the head and neck occasionally seen when he lays down but is still holding his head up.

HR 130-140 when resting at home, RR 12-14 when resting at home.

Diet and Supplements:

Old food - taste of the wild high prairie - about 5 cups daily (down from 8)

Also getting boiled chicken with his pills

When he eats more food, he gets soft stool (O asked for B6 script)

Nutro Blueberry Crunchies - dog treats

Cardiovascular History:

Prior CHF diagnosis? Yes

Prior ATE? No

Prior arrhythmia? Yes - A fib

Cough? Occasional single cough first thing in the morning, but no other cough

Shortness of breath or difficulty breathing? No. Snuffly sounding breathing more pronounced when he has to pee

Syncope or collapse? Yes - hx of collapse in February. None since then

Sudden onset lameness? No. Just normal old great dane stiffness

Exercise intolerance? No. Owners limit length of walks, good energy

Prior heart murmur? Yes - II/VI left apical systolic

Current Medications Pertinent to CV System:

B6

Cardiac Physical Examination:

B6

Muscle condition:

- | | |
|--|--|
| <input type="checkbox"/> Normal | <input type="checkbox"/> Moderate cachexia |
| <input checked="" type="checkbox"/> Mild muscle loss | <input type="checkbox"/> Marked cachexia |

Cardiovascular Physical Exam:

Murmur Grade:

- | | |
|---|--------------------------------|
| <input type="checkbox"/> None | <input type="checkbox"/> IV/VI |
| <input type="checkbox"/> I/VI | <input type="checkbox"/> V/VI |
| <input checked="" type="checkbox"/> II/VI | <input type="checkbox"/> VI/VI |
| <input type="checkbox"/> III/VI | |

Murmur location/description: Left apical to mid-cardiac systolic

Jugular vein:

- | | |
|--|--|
| <input checked="" type="checkbox"/> Bottom 1/3 of neck | <input type="checkbox"/> Top 2/3 rd of neck |
| <input type="checkbox"/> Middle 1/3 of neck | |

Arterial pulses:

- Weak
- Fair
- Good
- Strong
- Bounding
- Pulse deficits
- Pulsus paradoxus
- Other:

Arrhythmia:

- None
- Sinus arrhythmia
- Premature beats
- Bradycardia
- Irregular - A fib

Gallop:

- Yes
- No
- Intermittent
- Pronounced
- Other:

Pulmonary assessments:

- Eupneic
- Mild dyspnea
- Marked dyspnea
- Normal BV sounds
- Pulmonary crackles
- Wheezes
- Upper airway stridor

Abdominal exam:

- Normal
- Hepatomegaly
- Abdominal distension
- Mild ascites
- Marked ascites

Problems: DCM, hx of CHF, A fib

Diagnostic plan:

- Echocardiogram
- Chemistry profile
- ECG
- Renal profile
- Blood pressure
- Dialysis profile
- Thoracic radiographs
- NT-proBNP
- Troponin I
- Other tests: Fluid check

Echocardiogram Findings:

General/2-D findings:

B6

ECG findings:

B6

Assessment and recommendations:

Patient is doing very well at home after some tweaking of medications. B6

B6 and GI signs and his ventricular response rate has still been well controlled. Chem 21, PCV/TS submitted today. REcommend continuing current medications unless otherwise directed based on blood work. Redcheck fluid check/brief echo in 2-4 months, or sooner if clinical signs occur at home such as increased RR/RE, cough, collapse, abdominal distension, or lethargy. Continue with monthly ECGs at home or more often if there are clinical concerns.

Final Diagnosis:

DCM

History of biventricular CHF

Atrial fibrillation

Heart Failure Classification Score:

ISACHC Classification:

- Ia
- Ib
- II
- IIIa
- IIIb

ACVIM Classification:

- A
- B1
- B2
- C
- D

M-Mode

IVSd		om
LVIDd		om
LVPWd		om
IVSs		om
LVIDs		om
LVPWs		om
%FS		%
Max LA		om

B6

M-Mode Normalized

IVSdN	(0.29 - 0.52) !
LVIDdN	(1.35 - 1.73) !
LVPWdN	(0.33 - 0.53)
IVSsN	(0.43 - 0.71)
LVIDsN	(0.79 - 1.14) !
LVPWsN	(0.53 - 0.78)

2D

SA LA		om
Ao Diam		om
SA LA / Ao Diam		
IVSd		om
LVIDd		om
LVPWd		om
EDV(Teich)		ml
IVSs		om
LVIDs		om
LVPWs		om
ESV(Teich)		ml
EF(Teich)		%
%FS		%
SV(Teich)		ml

B6

Discharge Instructions

Patient

Name: B6
Species: Canine
Breed: Fawn Male Great Dane
Birthdate: B6

Owner

Name: B6
Address: B6

Patient ID: B6

Attending Cardiologist:

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

Cardiology Resident:

B6

Student: B6 V18

Cardiology Technician:

B6

Admit Date: B6

Discharge Date: B6

Diagnoses: Dilated cardiomyopathy (DCM) with congestive heart failure; Atrial fibrillation

Case summary:

Thank you for bringing B6 to Tufts for evaluation of his collapse episode, increased breathing effort, and irregular heart rhythm. B6 has been diagnosed with a primary heart muscle disease called dilated cardiomyopathy (DCM). This disease is more common in large and giant breed dogs and is characterized by thinning of the walls of the heart, reduced cardiac pump function, and enlargement of the upper chambers of the heart. Many dogs with DCM will also have significant arrhythmias which can be life-threatening and also require medical management. In B6's case, he has atrial fibrillation, which we believe caused his collapsing events, and to help treat this arrhythmia, we try to reduce the heart rate rather than convert that back to sinus rhythm. The heart enlargement has now progressed to the point of congestive heart failure, meaning that fluid is backing up into the lungs or belly. Unfortunately this is a progressive disease and we cannot reverse the changes to the heart muscle, however we can use cardiac medications and some changes to the diet to make B6 comfortable and have him breathing easier.

Diagnostic test results and findings:

B6

Monitoring at home:

B6

Recommended Medications:

B6

Diet suggestions:

Dogs with heart failure accumulate more fluid in their body if they eat large amounts of sodium (salt). Sodium can be found in all foods, but some foods are lower in sodium than others. Many pet treats, people foods, and supplements used to give pills often have more sodium than is desirable - a sheet that has suggestions for low sodium treats can be found on the

HeartSmart web site (<http://vet.tufts.edu/heartsmart/diet/>)

B6 usual diet may also have more sodium than recommended - we want him to continue to eat his normal diet for the first 7 to 14 days so we can make sure he is tolerating medications well, but after that time we would recommend slowly introducing one of the lower sodium diets on the HeartSmart list (25% of the new diet and 75% old diet for 2-3 days, then 50:50, etc.). Hopefully you can find a diet on the list that your dog likes to eat. Alternatively, if you are attached to the current diet you can research the amount of sodium in the diet to ensure that the sodium content is similar to those on the list.

There have been some anecdotal reports of certain dog foods being associated with decreased contractile function in dogs. We would ideally want to avoid grain free diets or any diet that may have been associated with heart problems in dogs.

Exercise Recommendations:

For the first 7 to 10 days after starting medications for heart failure we recommend very limited activity. Leash walking only is ideal, and short walks to start. Once the heart failure is better controlled, then slightly longer walks are acceptable. However, if you find that B6 is lagging behind or needs to stop on a walk then this was too long a walk and shorter walks are advised in the future. Repetitive or strenuous high energy activities (repetitive ball chasing, running fast off-leash, etc.) are generally not advised at this stage of heart failure.

Recheck Visits:

We would like Kenji to get bloodwork in 1-2 weeks to make sure he is tolerating his medications. We would like to check his B6 levels and to assess his renal function. This blood sample needs to be taken 6-8 hours after his B6 is given. We have scheduled you an appointment for Friday March 2nd at 3PM, but if B6 is doing well at home, you can get this recheck done at your primary vet if more convenient. A recheck ECG is also recommended at that time.

We would like to see B6 back for a re-check echo in 3-4 months to re-assess his heart and the progression of his DOM.

Thank you for entrusting us with B6's care. He is such a sweet and handsome boy! Please contact our Cardiology liaison, B6, at B6 or email us at cardiovet@tufts.edu for scheduling and non-emergent questions or concerns.

Please visit our HeartSmart website for more information

<http://vet.tufts.edu/heartsmart/>

Prescription Refill Disclaimer:

For the safety and well-being of our patients, your pet must have had an examination by one of our veterinarians within the past year in order to obtain prescription medications.

Ordering Food:

Please check with your primary veterinarian to purchase the recommended diet(s). If you wish to purchase your food from us, please call 7-10 days in advance (508-887-4629) to ensure the food is in stock. Alternatively, veterinary diets can be ordered from online retailers with a prescription/veterinary approval.

Clinical Trials:

Clinical trials are studies in which our veterinary doctors work with you and your pet to investigate a specific disease process or a promising new test or treatment. Please see our website: vet.tufts.edu/cvmc/clinical-studies

Case: B6

Owner: B6

Discharge Instructions

Discharge Instructions

Patient

Name: B6
Species: Canine
Fawn Male Great Dane
Birthdate: B6

Owner

Name: B6
Address: B6

Patient ID: B6

Attending Cardiologist:

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

Cardiology Resident:

B6

Student: B6 V19

Cardiology Technician:

B6

Date: 4/12/2018

Diagnoses: Dilated cardiomyopathy (DCM), Atrial fibrillation, history of congestive heart failure

Clinical Findings:

Thank you for bringing B6 to Tufts to recheck how his heart is doing. He is such a sweet boy!
Today we did a brief ultrasound of his heart and abdomen today. He looks good - we saw no fluid around his heart or abdomen, and his hepatic vessels do not look dilated which is great. His heart looks stable compared to previous exams.

We also collected some blood today to check his kidney values, and we will call you tonight or tomorrow when we get the results back. We are so happy with how he is looking!

Monitoring at Home:

B6

B6

Diet Suggestions:

Please continue trying to keep his sodium levels low. We are happy with him getting a varied diet. We want him to keep weight on, so as long as he is eating his food and snacks, that is good.

Exercise Recommendations:

Repetitive or strenuous high energy activities (repetitive ball chasing, running fast off-leash, etc.) are generally not advised at this stage of heart failure. Moderate walks are okay now that his heart failure is better controlled as long as he is not lagging behind or needing to stop frequently.

Continue Medications:

Continue

B6

Please continue to send periodic ECGs any time you have a concern, or at least once a month.

Thank you for entrusting us with B6's care. He was a perfect boy for us, as always. Please contact our Cardiology liaison, B6 at B6 or email us at cardiovet@tufts.edu for scheduling and non-emergent questions or concerns.

Please visit our HeartSmart website for more information

<http://vet.tufts.edu/heartsmart/>

Prescription Refill Disclaimer:

For the safety and well-being of our patients, your pet must have had an examination by one of our veterinarians within the past year in order to obtain prescription medications.

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Clinical Trials:

Clinical trials are studies in which our veterinary doctors work with you and your pet to investigate a specific disease process or a promising new test or treatment. Please see our website: vet.tufts.edu/cvmc/clinical-studies

Case

B6

Owner

B6

Discharge Instructions

Client: **B6**
 Veterinarian:
 Patient ID:
 Visit ID: 2477624

Patient: **B6**
 Species: Canine
 Breed: Great Dane
 Sex: Male
 Age: **B6** Years Old

Lab Results Report

Taurine: Whole Blood Level		6/5/2018 11:06:00 AM	Accession ID: B6
Test	Results	Reference Range	Units
TAURINE WB	B6	200 - 350	nmol/mL

55 Willard Street
 North Grafton, MA 01536
 (508) 839-5395

Client: **B6**
 Veterinarian: **B6**
 Patient ID: **B6**
 Visit ID: 2477624

Patient: **B6**
 Species: Canine
 Breed: Great Dane
 Sex: Male
 Age: **B6** Years Old

Lab Results Report

Taurine: Whole Blood Level		6/5/2018 11:06:00 AM	Accession ID: B6
Test	Results	Reference Range	Units
TAURINE WB	B6	200 - 350	nmol/mL

From: Rotstein, David </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=0A3B17EBFCF14A6CB8E94F322906BADD-DROTSTEI>
To: Carey, Lauren; Ceric, Olgica; Glover, Mark; Jones, Jennifer L; Nemser, Sarah; Palmer, Lee Anne; Peloquin, Sarah; Queen, Jackie L; Rotstein, David
Sent: 11/11/2018 1:15:58 PM
Subject: DCM case-Tufts-- repeat submission EON-370776 and 370708
Attachments: Earthborn grain free weight management dry: Lisa Freeman - EON-370708; Earthborn Holistic Weight Control (Grain Free); B6 - EON-370776

Please note that these are for the same dog



Foster Hospital for Small Animals

55 Willard Street
North Grafton, MA 01536
(508) 839-5395

All Medical Records

Client: B6
Address: B6

Patient: B6
Breed: Golden Retriever
DOB: B6

Species: Canine
Sex: Male
(Neutered)

Home Phone: B6
Work Phone: () -
Cell Phone: B6

Referring Information

B6

Client: B6
Patient: B6

Initial Complaint:

Scanned Record

Initial Complaint:

New - B6 - DCM study

SOAP Text B6 12:08PM - B6

Disposition/Recommendations

Client:
Patient:

B6

Client: **B6**
Patient: **B6**



Foster Hospital for Small Animals

55 Willard Street
North Grafton, MA 01536
(508) 839-5395

Client:	B6
Veterinarian:	
Patient ID:	B6
Visit ID:	

Patient:	B6
Species:	Canine
Breed:	Golden Retriever
Sex:	Male (Neutered)
Age:	B6 Years Old

Lab Results Report

11/7/2018 1:29:30 PM		Accession ID: B6	
Test	Results	Reference Range	Units
Troponin I Research - FHSA	B6	0 - 0.08	mg/dl



3/22

B6

B6

Printed Friday, November 09, 2018

Client:
Patient:

B6

RDVM

B6

records

B6

B6

Client: **B6**
Patient:

RDVM **B6** records

B6

B6

Page 3 of 9

Client:
Patient:

B6

RDVM

B6

records

B6

B6

Page 11 of 11

Client:
Patient:

B6

RDVM

B6

records

B6

B6

Page 4 of 9

Client:
Patient:

B6

RDVM

B6

records

B6

B6

Page 8 of 9

Client:
Patient:

B6

RDVM

B6

records

B6

B6

05/01/2018 02:15 PM

RBC
HCT
HGB
MCV
MCH
MCHC
RDW
%RETIC
RETIC
WBC
NEUT
LYM
MONO
SEG

B6

5.30-8.30 Hg/L
37.0-50.0 %
12.0-16.0 g/dL
80.0-100.0 fL
27.0-34.0 pg
30.0-37.0 g/dL
11.7-17.9 %
%
18.0-24.0 Hg/L
2.50-16.00 Hg/L

B6

Page 1 of 8

Client: **B6**
Patient:

RDVM **B6** records

B6

NEURO
HEU
LYM
MORE
EOS
BASO
PLT
MPV
PDW
PCT
GLU
CREA
BUN
BUNCREA
TP
ALB
GLOB
HGBGLOB
ALT
ALP
AP_NP
ECDE
HIV
Lyme

200-12.00 K/gL
0.50-4.00 K/gL
0.30-2.00 K/gL
0.10-1.00 K/gL
0.00-0.01 K/gL
175-500 K/gL

E
E
E

74-143 mg/dL
0.5-1.8 mg/dL
7-27 mg/dL

5.2-5.2 g/dL
2.3-4.0 g/dL
27-43 g/dL

10-125 U/L
25-210 U/L

B6

B6

SMA Panel Dx

10/26/2017 07:18 PM

AP_NP
ECDE
HIV
Lyme

B6

Page 2 of 8

Client: **B6**
Patient: **B6**

RDVM: **B6** records

FECAL ANALYSIS: (In House)

B6

B6

Technician: _____
Date: _____

Appearance: Normal Loose Liquid
Mucous Blood Color: Normal

Fecal Centrifugation: Negative Positive
Direct Smear: Negative Positive

Parasites: Tricostema Coccidia
Microsporida Giardia
Whipworm Coccidia
Tapeworm Other

* Zoonotic - transmissible to humans and other animals.

Unusable Sample Why? _____

Comments:

Client: **B6**
Patient:

RDVM: **B6** records

FECAL ANALYSIS: (In House)

B6

B6

Appearance

Normal Loose Liquid
Mucous Blood Colorful

Fecal Centrifugation

Negative Positive

Direct Smear

Negative Positive

Parasites

Trichostrongylus
Strongylus
Whipworm
Tapeworm
Eosinophilic
Coccidia
Giardia
Cryptosporidia
Other

* Zoonotic- transmissible to humans and other animals

Unusable Sample

Why?

Comments:

Client: **B6**
Patient:

RDVM **B6** records

B6

10/18/2018 02:30 PM

GLU
BUN
CREA
BUNCREA
TP
ALB
GLOB
ALBULOB
ALT
ALAP
AP_300
ECOE
HW
Lime

B6

14-143 mg/dL
7.27 mg/dL
0.5-1.8 mg/dL
3.3-8.2 g/dL
2.3-4.0 g/dL
2.0-4.0 g/dL
10-25 U/L
20-212 U/L

B6

Client: **B6**
Patient: **B6**

RDVM: **B6** records

FECAL ANALYSIS: (In House)

B6
B6

Technician: _____

Appearance: Normal Loose Liquid
Mucous Blood Color/B

Fecal Centrifugation: Negative Positive

Direct Smear: Negative Positive

Parasites:

Trichostrongylus	<input type="checkbox"/>	Coccidia	<input type="checkbox"/>
Strongylus	<input type="checkbox"/>	Oocysts	<input type="checkbox"/>
Whipworm	<input type="checkbox"/>	Other	<input type="checkbox"/>
Tapeworm	<input type="checkbox"/>		<input type="checkbox"/>
	<input type="checkbox"/>		<input type="checkbox"/>

* Zoonotic - transmissible to humans and other animals.

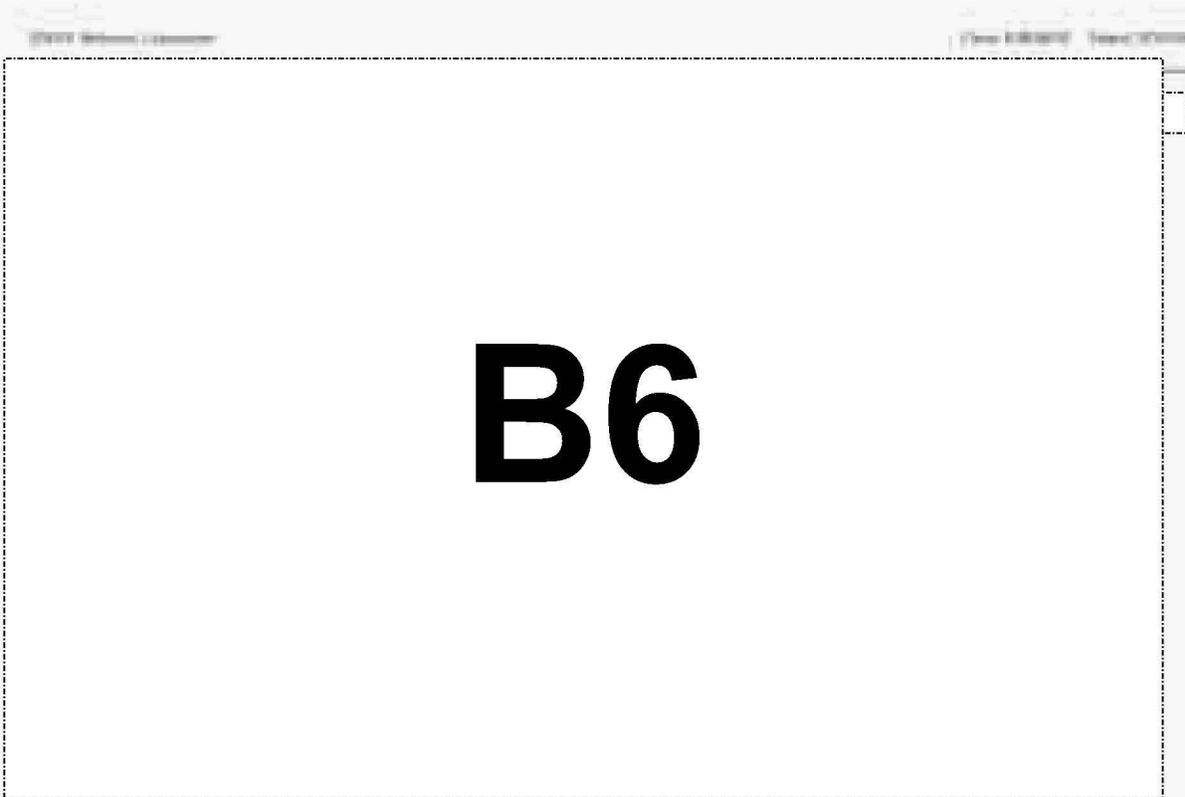
Unusable Sample Why? _____

Comments:

Client:
Patient:

B6

IDEXX BNP - 11/8/2018



Client: **B6**
 Patient: **B6**

CBC/Chem - 11/7/2018



Tufts Cummings School Of Veterinary Medicine
 300 Westboro Road
 South Grafton, MA 01116

DUPLICATE

Name DOB: **B6** Sex: CM Provider: **B6**
 Patient ID: **B6** Age: J Order Location: VADM02: Radley Feed Ligne Study
 Race: **B6** Species: **B6** Sample ID: **B6**
 Collection Date: 11/07/2018 12:10 PM
 Approval Date: 11/07/2018 02:29 PM

CBC (Research) (Advia)

Parameter	Value	Ref. Range/Units
WBC (ADVIA)	B6	4.45-13.00 K/uL
RBC (ADVIA)	B6	1.80-8.20 M/uL
Hemoglobin (ADVIA)	B6	13.3-20.7 g/dL
Hematocrit (ADVIA)	B6	39-53 %
MCV (ADVIA)	B6	84.9-77.5 fL
MCH (ADVIA)	B6	21.3-23.8 pg
MCHC (ADVIA)	B6	31.8-34.3 g/dL
RDW (ADVIA)	B6	11.9-15.2
Platelets (Hematology)	B6	150,000-500,000/uL (estimated count of 200,000-300,000/uL)

Microscopic Exam of Blood Smear (Advia)

Parameter	Value	Ref. Range/Units
Seg Neut (%)	B6	43-66 %
Lymphocyte (%)	B6	7-47 %
Monocyte (%)	B6	1-11 %
Eosinophile (%)	B6	0-15 %
Seg Neutrophils (Wt)	B6	2,000-11,000 K/uL
Adms	B6	
Lymph (Abs) Adms	B6	1,000-4,000 K/uL
Mon (Abs) Adms	B6	0-100-1,500 K/uL
Eosinophil (Abs) Adms	B6	0-600-1,000 K/uL
WBC Morphology	B6	Morphologic Abnormalities
Erythrocytes	B6	

Research Chemistry Profile - Small Animal (Cobas)

Parameter	Value	Ref. Range/Units
GLUCOSE	B6	67-131 mg/dL
Urea	B6	6-30 mg/dL
Creatinin	B6	0.6-2.0 mg/dL
Phosphorus	B6	2.8-7.2 mg/dL
Calcium T	B6	9.4-11.3 mg/dL
Magnesium T	B6	1.8-2.0 mg/dL
Total Protein	B6	5.5-7.8 g/dL
Albumin	B6	2.8-4.0 g/dL
Globulin	B6	2.3-4.2 g/dL
BUN	B6	6-21 mg
Sodium	B6	140-160 mEq/L
Chloride	B6	100-120 mEq/L
Potassium	B6	3.0-6.4 mEq/L
KCO ₂ Reactivity	B6	14-28 mEq/L
ALAP	B6	0-20.0
NA ₂ E	B6	20-40
Total Bilirubin	B6	0.20-0.50 mg/dL

Sample ID: 18111102-13 Date/Time: 11/07/2018 12:10 PM

Client: **B6**
Patient: **B6**

CBC/Chem - 11/7/2018



Tufts Cummings School Of Veterinary Medicine

300 Winthrop Road
North Grafton, MA 01146

DUPLICATE

Owner DOB: B6	Provider: B6
Patient ID: B6	Order Location: MA201833 - Stability Feed Ligament Study
Phone number: B6	Sample ID: B6
Collection Date: 11/7/2018 11:10 PM	Species: Canine
Approval Date: 11/7/2018 2:29 PM	Breed: Golden Retriever

Research Chemistry Profile - Small Animal (Cobas) (cont'd)

	Ref. Range (Male)
BILIRUBIN	0.00-0.18 mg/dL
INDICATOR BILIRUBIN	0.00-0.20 mg/dL
ALBUMIN Phosphotase	10-127 U/L
GGT	0-10 U/L
ALT	14-60 U/L
AST	0-24 U/L
Creatine Kinase	27-422 U/L
Cholesterol	83-253 mg/dL
Triglycerides	10-330 mg/dL
Iron (total)	400-1250 U/L
Creatinine (calculated)	0.95-2.11 mg/dL

Sample ID: **B6**
REPORT ONLY: please see 11/7/2018 (final)

Reviewed By: _____
Page 1

Client:
Patient:

B6

Vitals Results

11/7/2018 11:32:13 AM

Weight (kg)

B6

Client: **B6**
Patient:

ECG from cardio

B6

ALL INFORMATION CONTAINED
HEREIN IS UNCLASSIFIED
DATE 08-14-2018 BY 60322/UC/STP/STP

B6

Client: **B6**
Patient:

ECG from cardio

B6

ALL INFORMATION CONTAINED
HEREIN IS UNCLASSIFIED
DATE 08/14/2019 BY 60322/UC/STP/STP

B6

Client:
Patient:

B6

ECG from cardio

B6

ALL INFORMATION CONTAINED
HEREIN IS UNCLASSIFIED
DATE 08-14-2018 BY 60322/UC/STP/STP

B6

Client: **B6**
Patient:

Patient History

11/05/2018 10:46 AM	Appointment
11/05/2018 12:36 PM	Appointment
11/07/2018 10:07 AM	UserForm
11/07/2018 10:48 AM	UserForm
11/07/2018 10:53 AM	Treatment
11/07/2018 11:32 AM	Vitals
11/07/2018 12:08 PM	Purchase
11/07/2018 12:18 PM	UserForm
11/07/2018 01:29 PM	Labwork
11/07/2018 01:30 PM	Purchase
11/07/2018 01:30 PM	Purchase
11/07/2018 01:30 PM	Purchase

B6

B6

Patient ID: B6

B6 Canine

B6 Female (Spayed) Doberman
Black/Tan

**Cardiology Appointment Report
IN DCM DIET STUDY**

Date: 6/11/2019

Attending Cardiologist:

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

Cardiology Resident:

B6

Cardiology Technician:

B6

Student: B6

Presenting Complaint:

Recheck DCM study

Mild MMVD

Mild decreased contractile function r/o diet related vs primary DCM vs normal variation

B6

Diet and Supplements:

Purina Pro Plan (weight management) 2 cups BID, Hills Beef and barley canned 1 heaping tablespoon BID, fruit, pumpkin, and salt free sugar free peanut butter as snacks

Cardiovascular History:

Prior CHF diagnosis? N

Prior heart murmur? N

Prior ATE? N

Prior arrhythmia? Sinus arrhythmia, ventricular arrhythmia dx via holter monitor

Monitoring respiratory rate and effort at home? pants a lot, no increased effort

Cough? no, occasional cough from licking dust (has done forever)

Shortness of breath or difficulty breathing? N

Syncope or collapse? N

Sudden onset lameness? limping Left front after jumping off a wall to chase chipmunk

Exercise intolerance? N

Current Medications Pertinent to CV System:

B6

Muscle condition:

- Normal
- Mild muscle loss
- Moderate cachexia
- Marked cachexia

Cardiovascular Physical Exam:

Murmur Grade:

- None
- I/VI
- II/VI
- III/VI
- IV/VI
- V/VI
- VI/VI

Jugular vein:

- Bottom 1/3 of the neck
- Middle 1/3 of the neck
- 1/2 way up the neck
- Top 2/3 of the neck

Arterial pulses:

- Weak
- Fair
- Bounding
- Pulse deficits

- Good
- Strong

- Pulsus paradoxus
- Other:

Arrhythmia:

- None
- Sinus arrhythmia
- Premature beats

- Bradycardia
- Tachycardia

Gallop:

- Yes
- No
- Intermittent

- Pronounced
- Other:

Pulmonary assessments:

- Eupneic
- Mild dyspnea
- Marked dyspnea
- Normal BV sounds

- Pulmonary crackles
- Wheezes
- Upper airway stridor

Abdominal exam:

- Normal
- Hepatomegaly
- Abdominal distension

- Mild ascites
- Marked ascites

Problems:

Mild MMVD

Mild decreased contractile function r/o diet related vs primary DCM vs normal variation

Hx elevated proBNP

Diagnostic plan:

- Echocardiogram
- Chemistry profile
- ECG
- Renal profile
- Blood pressure

- Dialysis profile
- Thoracic radiographs
- NT-proBNP
- Troponin I
- Other tests:

B6

Mitral inflow:

- Summated
- Normal
- Delayed relaxation

- Pseudonormal
- Restrictive

B6

Assessment and recommendations:

The patient continues to be asymptomatic at home and is doing great. The echocardiogram today is slightly improved compared to the previous one on the basis of a smaller LVIDd and improved FS on m-mode. There has been a drastic improvement when we compare today's echocardiogram with the first one performed back in August 2018. Once again, it is impossible to say if the improvement is secondary to the diet change vs. the addition of but the amount of improvement visualized as well as the constant improvement might be a vote in favor of diet-related changes. No arrhythmia was visualized today. An NT-pro BNP was submitted today. Continue with the current dose of with no change. The patient is officially done with the DCM study and any further rechecks should be covered by the owner. A recheck echocardiogram with ECG is recommended in 6 months or sooner if the patient develops clinical signs consistent with worsening heart disease.

Final Diagnosis:

- Very early DMVD with no IAE
- Improved contractile function after change of food and supplementation.

Heart Failure Classification Score:

ISACHC Classification:

- | | |
|--|-------------------------------|
| <input checked="" type="checkbox"/> Ia | <input type="checkbox"/> IIIa |
| <input type="checkbox"/> Ib | <input type="checkbox"/> IIIb |
| <input type="checkbox"/> II | |

ACVIM Classification:

- | | |
|--|----------------------------|
| <input type="checkbox"/> A | <input type="checkbox"/> C |
| <input checked="" type="checkbox"/> B1 | <input type="checkbox"/> D |
| <input type="checkbox"/> B2 | |

M-Mode

IVSd

LVIDd

LVPWd

IVSs

LVIDs

LVPWs

EDV(Teich)

ESV(Teich)

EF(Teich)

%FS

SV(Teich)

Ao Diam

LA Diam

LA/Ao

EPSS

cm
cm
cm
cm
cm
cm
ml
ml
%
%
ml
cm
cm
cm

M-Mode Normalized

IVSdN
LVIDdN
LVPWdN
IVSsN
LVIDsN
LVPWsN

(0.290 - 0.520)
(1.350 - 1.730) !
(0.330 - 0.530)
(0.430 - 0.710)
(0.790 - 1.140)
(0.530 - 0.780)

2D

SA LA
Ao Diam
SA LA, / Ao Diam
IVSd
LVIDd
LVPWd
EDV(Teich)
IVSs
LVIDs
LVPWs
ESV(Teich)
EF(Teich)
%FS
SV(Teich)
LV Major
LV Minor
Sphericity Index
LVld A4C
LVEDV MOD A4C
LVls A4C
LVESV MOD A4C
LVEF MOD A4C
SV MOD A4C

cm
cm
cm
cm
cm
ml
cm
cm
cm
ml
%
%
ml
cm
cm
cm
ml
ml
cm
ml
ml
ml
%
ml

B6

Doppler

MV E Vel
MV DecT
MV Dec Slope
MV A Vel
MV I/A Ratio
E'
E/E'
A'
S'
AV Vmax
AV maxPG
PV Vmax
PV maxPG

m/s
ms
m/s
m/s
m/s
m/s
m/s
m/s
mmHg
m/s
mmHg

Cummings

Veterinary Medical Center

AT TUFTS UNIVERSITY

Cardiology Liaison: 508-887-4696

B6

Patient ID: B6

B6 Canine

B6 Years Old Male (Neutered) Doberman

Pinscher

Black/Tan

Cardiology Appointment Report

Date: 9/20/2018

Attending Cardiologist:

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

Cardiology Resident:

B6

Cardiology Technician:

B6

Student: B6 V19

Presenting Complaint:

Recheck of DCM with active CHF

General Medical History:

Has been his normal self, went on one 20 min walk since he was last here and had no trouble at all.

PU/PD (due to lasix)

Diet and Supplements:

Fromm Mature: 4 cups a day

Cardiovascular History:

Prior CHF diagnosis? Yes

Prior heart murmur? Yes, grade III/VI

Prior ATE?, N

Prior arrhythmia? Y, VPCs

Monitoring respiratory rate and effort at home? N, but havent noticed any labored breathing

Cough? N

Shortness of breath or difficulty breathing? N

Syncope or collapse? N

Sudden onset lameness? N

Exercise intolerance? N

Current Medications Pertinent to CV System:

B6

Muscle condition:

- Normal
- Mild muscle loss
- Moderate cachexia
- Marked cachexia

Cardiovascular Physical Exam:

Murmur Grade:

- None
- I/VI
- II/VI
- III/VI
- IV/VI
- V/VI
- VI/VI

Murmur location/description:

Jugular vein:

- Bottom 1/3 of the neck
- Middle 1/3 of the neck
- 1/2 way up the neck
- Top 2/3 of the neck

Arterial pulses:

- Weak
- Fair
- Good
- Strong
- Bounding
- Pulse deficits
- Pulsus paradoxus
- Other:

Arrhythmia:

- None
- Sinus arrhythmia
- Premature beats
- Bradycardia
- Tachycardia

Gallop:

- Yes
- No
- Intermittent

- Pronounced
- Other:

Pulmonary assessments:

- Eupneic
- Mild dyspnea
- Marked dyspnea
- Normal BV sounds

- Pulmonary crackles
- Wheezes
- Upper airway stridor

Abdominal exam:

- Normal
- Hepatomegaly
- Abdominal distension

- Mild ascites
- Marked ascites

Problems:

Differential Diagnoses:

Diagnostic plan:

- Echocardiogram
- Chemistry profile
- ECG
- Renal profile
- Blood pressure

- Dialysis profile
- Thoracic radiographs
- NT-proBNP
- Troponin I
- Other tests:

Assessment and recommendations:

Final Diagnosis:

Heart Failure Classification Score:

ISACHC Classification:

- Ia
- Ib
- II

- IIIa
- IIIb

ACVIM Classification:

- A
- B1
- B2

- C
- D

Cummings Veterinary Medical Center

AT TUFTS UNIVERSITY
Cardiology Liaison: 508-887-4696

B6

Patient ID: B6
B6 Canine
B6 Years Old Male (Neutered)
Doberman Pinscher
Black/Tan BW: Weight (kg) 32.00

Cardiology Consultation

Date: 9/8/2018

Weight: Weight (kg) 32.00

Requesting Clinician: B6

Attending Cardiologist:

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

Cardiology Resident:

B6

Thoracic radiographs available for review?

- Yes - in SS
 Yes - in PACS
 No

Patient location: ER

Presenting complaint and important concurrent diseases: 8 y.o doberman presenting for acute onset soft cough after exercise and at rest, worse at night. Owners report coughing episodes have been getting more frequent over the past 3 days. Grade IV/VI right sided systolic murmur ausculted on exam. Had scheduled appointment to be seen with cardiology 9/20/18 based on arrhythmia heard at rDVM.

STOP - remainder of form to be filled out by Cardiology

Physical Examination

B6

Cardiovascular Physical Exam

Murmur Grade:

- None IV/VI
 I/VI V/VI

- II/VI
- III/VI

- VI/VI

B6

Jugular vein:

- Bottom 1/3 of the neck
- Middle 1/3 of the neck

- Top 2/3 of the neck
- 1/2 way up the neck

Arterial pulses:

- Weak
- Fair
- Good
- Strong

- Bounding
- Pulse deficits
- Pulsus paradoxus
- Other (describe):

Arrhythmia:

- None
- Sinus arrhythmia
- Premature beats

- Bradycardia
- Tachycardia

Gallop:

- Yes
- No
- Intermittent

- Pronounced
- Other:

Pulmonary assessments:

- Eupneic
- Mild dyspnea
- Marked dyspnea
- Normal BV sounds

- Pulmonary Crackles
- Wheezes
- Upper airway stridor
- Other auscultatory findings:

Abdominal exam:

- Normal
- Hepatomegaly

- Abdominal distension
- Mild ascites

Echocardiogram Findings:

B6

Mitral inflow:

- Summated
- Normal
- Delayed relaxation

- Pseudonormal
- Restrictive

ECG findings:

B6

Assessment and recommendations: Findings consistent with DCM and active congestive heart failure. Simpson and sphericity index revealed advanced LV dilation and enlarged LA are consistent with advanced DCML. Recommend **B6** in order to improve systolic function, cardiac output and decrease LA pressure. TR revealed mild PHT, for which we expect that treating CHF will help to improve pulmonary circulation. **B6** can be considered in the future, but not for now. Radiographs revealed interstitial pattern consistent with incipient pulmonary edema. **B6** is recommended in **B6** recommended. Telemetry monitoring during hospitalization as patient had many isolated ventricular ectopies during the exam. In case of couplets, triplets, NSVT or R/T, recommend **B6** low sodium diet (ideally a main stream brand) should be started and explain to owners that grain free diet is contra-indicated at this point. Kidney levels should be evaluated in daily basis during hospitalization and recheck ECG tomorrow in case arrhythmias are still frequent.

Treatment plan:

B6

Final Diagnosis:

L-CHF secondary to DCM

Addendum:

9/9/18 - Patient did well overnight, rare episodes of cough and respiratory rate stayed stable

B6

B6

Recheck is

scheduled in 9 days. Recheck echo or radiographs, ECG, and blood work in 3-4 months.

Heart Failure Classification Score:

ISACHC Classification:

- Ia
- Ib
- II
- IIIa
- IIIb

ACVIM CHF Classification:

- A
- B1
- B2
- C
- D

Cummings

Veterinary Medical Center

AT TUFTS UNIVERSITY

Foster Hospital for Small Animals
55 Willard Street
North Grafton, MA 01536
Telephone (508) 839-5395
Fax (508) 839-7951
<http://vetmed.tufts.edu/>

Emergency & Critical Care Liaison: (508) 887-4745

Patient

Name:

B6

Signalment:

B6 Years Old Black/Tan Male
(Neutered) Doberman Pinscher

Owner

Name:

B6

Address:

Patient ID:

B6

Emergency Clinician:

B6

Consulting Clinician:

ER Supervisor:

B6

Discharge Instructions

Admit Date: 9/8/2018 10:52:58 AM

Check Out Date: 9/8/2018

Case Summary

Diagnosis:

1. Dilated cardiomyopathy with active congestive heart failure.

Case Summary:

Thank you for bringing B6 to Tufts ER for evaluation of his persistent cough. You reported that he suddenly developed a cough three days ago and that it is worse after exercise or when he is resting at night. On presentation he was bright and alert. His vital signs (heart rate, respiratory rate, and temperature) were all within normal limits. He had an audible bilateral heart murmur. He coughed when his trachea was palpated lightly.

Based on his breed and clinical presentation, we opted to do radiographs and have an emergency consult with the cardiology department because of concerns of dilated cardiomyopathy (DCM). This is a common condition for this breed. Also, grain-free diets may predispose animals to developing dilated cardiomyopathy or make a pre-existing disease to get worse.

On his cardiology consult, ultrasound showed significantly decreased contraction of the heart, confirming dilated cardiomyopathy. EKG showed occasional abnormal heartbeats originating from the ventricle. Based on the results of his radiographs and cardiology consult, Furosemide was started to relieve some of the fluid backing up in his lungs. He was also started on pimobendan, which increases the strength of heart contractions. As grain free diet can affect absorption of some nutrients, Taurine supplementation was started. He was placed on an EKG overnight to determine if any arrhythmias are present.

Patient Care Instructions:

1. **Exercise restrictions:** Do not allow B6 to overexert himself. He may still go for short walks and play with his sister but avoid strenuous activity like hiking or chasing squirrels which may overexert his heart.
2. **Diet:** We recommend to discontinue the grain free diet - a sheet that has suggestions for diet and low sodium treats can be found on the HeartSmart web site (<http://vet.tufts.edu/heartsmart/diet/>). We recommend as dry options:
 - Royal Canin Early Cardiac;
 - Royal Canin Bowner;
 - Purina ProPlan Adult Weight Management.

Medications:

B6

Recheck Visits: Please come in for your scheduled cardiology appointment on September 20th at 1PM as a re-check appointment.

Thank you for entrusting us with B6's care. Please contact our Cardiology liaison at (508) 887-4696 or email us at cardiovet@tufts.edu for scheduling and non-emergent questions or concerns.

Please visit our HeartSmart website for more information
<http://vet.tufts.edu/heartsmart/>

Prescription Refill Disclaimer:

For the safety and well-being of our patients, your pet must have had an examination by one of our veterinarians within the past year in order to obtain prescription medications.

On-call Fax:

Please check with your primary veterinarian to purchase the recommended diet(s). If you wish to purchase your pet's food from us, please call 1-10 days in advance (503-897-2629) to ensure the food is in stock. Alternatively, veterinary diets can be ordered from online retailers with a prescription/veterinary approval.

Clinical Trials:

Clinical trials are studies in which our veterinary dietitians work with you and your pet to investigate a specific disease process or a potential new diet or treatment. Please see our website: vet.hill's.com/clinical-studies

Care

B6

Owner

B6

Discharge Instructions

Discharge Instructions

Patient

Name: B6

Species: Canine

Black/Tan Male (Neutered) Doberman
Pinscher

Birthdate: B6

Owner

Name: B6

Address: B6

Patient ID: B6

Attending Cardiologist: John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

Cardiology Resident:

B6

Cardiology Technician:

B6

Student: B6 V19

Admit Date: 9/20/2018 1:05:31 PM

Discharge Date: 9/20/2018

Diagnoses:

1. Dilated cardiomyopathy (DCM) – stable
2. Congestive heart failure – resolved

Case summary:

Thank you for bringing in B6 for his recheck appointment with us today. He is such a sweet boy! We are so happy to hear he has been doing so well on his medications and has not had any coughing, difficulty breathing, or exercise intolerance. We are so glad B6 is responding so well to his medications and is feeling so comfortable.

Today we performed a recheck quick ultrasound of his heart, an ECG to recheck his ventricular arrhythmias, and took some blood to recheck his kidney values since being on the furosemide for 10 days. His heart seems to be contracting a little stronger than it was previously. His left ventricle was still dilated, but his left atrium was smaller today since his last visit, which means he is improving on his current medications. He did not have any arrhythmias when we performed his ECG today. The blood work results are normal and we would like to continue him on his current medication doses (see list below), and also continue exercise restricting him to only leash walks.

Monitoring at home:

- We would like you to monitor B6's breathing rate and effort at home, ideally during sleep or at a time of rest. The doses of drugs will be adjusted based on the breathing rate and effort.
- In general, most dogs with heart failure that is well controlled have a breathing rate at rest of less than 35 breaths per minute. In addition, the breathing effort, noted by the amount of belly wall motion used for each breath, is

fairly minimal if heart failure is controlled.

- o An increase in breathing rate or effort will usually mean that you should give an extra dose of B6. If difficulty breathing is not improved by within 60-90 minutes after giving extra B6, then we recommend that a recheck exam be scheduled and/or that your dog be evaluated by an emergency clinic.
- o There are instructions for monitoring breathing, and a form to help keep track of breathing rate and drug doses, on the Tufts HeartSmart web site (<http://vet.tufts.edu/heartsmart/at-home-monitoring/>).
- o We also want you to watch for weakness or collapse, a reduction in appetite, worsening cough, or distention of the belly as these findings indicate that we should do a recheck examination.
- o If you have any concerns, please call or have your dog evaluated by a veterinarian. Our emergency clinic is open 24 hours/day.

Recommended Medications:

B6

Diet suggestions:

We suggest B6 to be in one of the diets we recommended (see list). Many pet treats, people foods, and supplements used to give pills often have more sodium than is desirable - a sheet that has suggestions for low sodium treats can be found on the HeartSmart web site (<http://vet.tufts.edu/heartsmart/diet/>)

Exercise Recommendations:

Leash walking only is ideal, and short walks to start. Once the heart failure is better controlled, then slightly longer walks are acceptable. However, if you find that B6 is lagging behind or needs to stop on a walk then this was too long a walk and shorter walks are advised in the future. Repetitive or strenuous high energy activities (repetitive ball chasing, running fast off-leash, etc.) are generally not advised at this stage of heart failure.

Recheck Visits:

A recheck echocardiogram for B6 is recommended in 3-4 months.
B6 has an appointment with us on October 2nd at 4 pm.)

Thank you for entrusting us with B6 care. Please contact our Cardiology liaison at (508)-887-4626 or email us at cardiovet@tufts.edu for scheduling and non-emergent questions or concerns.

Please visit our HeartSmart website for more information

<http://vet.tufts.edu/heartsmart/>

Prescription Refill Disclaimer:

For the safety and well-being of our patients, your pet must have had an examination by one of our veterinarians within the past year in order to obtain prescription medications.

Ordering Food:

Please check with your primary veterinarian to purchase the recommended diet(s). If you wish to purchase your food from us, please call 7-10 days in advance (508-887-4629) to ensure the food is in stock. Alternatively, veterinary diets can be ordered from online retailers with a prescription/veterinary approval.

Clinical Trials:

Clinical trials are studies in which our veterinary doctors work with you and your pet to investigate a specific disease process or a promising new test or treatment. Please see our website: vet.tufts.edu/cvma/clinical-studies

Case: B6

Owner: B6

Discharge Instructions

Discharge Instructions

Patient

Name: B6

Species: Canine

Brown/White Female (Spayed) English

Bulldog

Birthdate: B6

Owner

Name: B6

Address: B6

Patient ID: B6

Attending Cardiologist: John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

Cardiology Resident:

B6

Cardiology Technician:

B6

Student: B6

Date: 5/8/2019

Diagnoses: Dilated cardiomyopathy (DCM); history of active congestive heart failure**Clinical Findings:**

Thank you for bringing B6 in today for a three month recheck as a part of the DCM study. B6 has been doing well at home and has had good energy, though she has been slightly stubborn about taking her medications.

During B6's appointment today, we performed a recheck echocardiogram (ultrasound of the heart). B6 still has significant structural and functional changes to her heart, but these changes do not appear to have worsened since her last echocardiogram in January. We also assessed B6 heart rhythm using electrocardiogram (EKG) and did not see any cardiac arrhythmias. We drew blood samples from B6 as part of the DCM study, and her kidney values are still perfect. We would therefore like to increase her enalapril to twice daily (see below). B6 is also on a relatively conservative dose of furosemide, so you should have no hesitation to give an extra dose if needed for increased breathing rate or effort.

Monitoring at Home:

- Please continue to monitor B6 breathing rate and effort at home, ideally during sleep or at a time of rest. The doses of drugs will be adjusted based on the breathing rate and effort.
- In general, most dogs with heart failure that is well controlled have a breathing rate at rest of less than 35 to 40 breaths per minute. In addition, the breathing effort, noted by the amount of belly wall motion used for each breath, is fairly minimal if heart failure is controlled.
- An increase in breathing rate or effort *usually* mean that you should give an extra dose of B6 if difficulty breathing is not improved by within 30-60 minutes after giving extra B6. If you were concerned that a recheck exam be scheduled and/or that your dog be evaluated by an emergency clinic.

- We also want you to watch for weakness or collapse, a reduction in appetite, worsening cough, or distention of the belly as these findings indicate that we should do a recheck examination.
- If you have any concerns, please call or have your dog evaluated by a veterinarian. Our emergency clinic is open 24 hours/day.

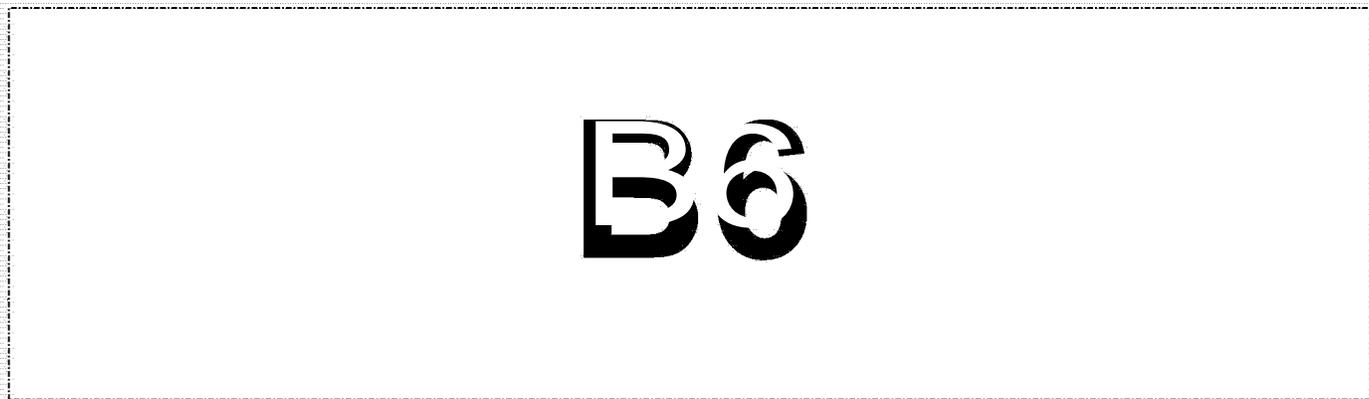
Diet Suggestions:

Please continue to feed the Royal Canin Cardiac Diet.

Exercise Recommendations:

may continue her normal exercise routine at home.

Recommended Medications:



Recheck Visit: We would like to see for a recheck appointment in 3 months. At this visit we will want to check breathing effort and heart function, do a blood test for the study, and recheck an echocardiogram. will contact you to schedule this appointment.

Thank you for entrusting us with care. She is such a sweet girl! Please contact our Cardiology liaison at (508)-887-4696 or email us at cardiovet@tufts.edu for scheduling and non-emergent questions or concerns.

Please visit our HeartSmart website for more information
<http://vet.tufts.edu/heartsmart/>

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Case:

Owner:

Discharge Instructions

Cummings Veterinary Medical Center

AT TUFTS UNIVERSITY

Cardiology Liaison: 508-887-4696

B6

Patient ID:

Canine

Years Old Female (Spayed) English Bulldog
Brown/White

Cardiology Appointment Report ENROLLED IN DCM DIET STUDY

Date: 5/8/2019

Attending Cardiologist:

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

Cardiology Resident:

Cardiology Technician:

B6

Student:

Presenting Complaint: 3 month recheck DCM study, history of DCM and CHF

Concurrent Diseases:

None

General Medical History:

CHF diagnosed 1/16/19, BNP > O reports good energy at home, but slightly decreased appetite.
Can be difficult to medicate. Was previously on grain-free diet.

Diet and Supplements:

NOW Taurine 500mg BID
RC early cardiac diet

Cardiovascular History:

Prior CHF diagnosis? yes

Prior heart murmur? n

Prior ATE? n

Prior arrhythmia? n

Monitoring respiratory rate and effort at home? y- usually in the 30s

Cough? n

Shortness of breath or difficulty breathing? y (one day)

Syncope or collapse? n
Sudden onset lameness? n
Exercise intolerance? n

Current Medications Pertinent to CV System:

B6

Muscle condition:

- | | |
|--|--|
| <input checked="" type="checkbox"/> Normal | <input type="checkbox"/> Moderate cachexia |
| <input type="checkbox"/> Mild muscle loss | <input type="checkbox"/> Marked cachexia |

Cardiovascular Physical Exam:

Murmur Grade:

- | | |
|---|--------------------------------|
| <input checked="" type="checkbox"/> None/difficult to auscult | <input type="checkbox"/> IV/VI |
| <input type="checkbox"/> I/VI | <input type="checkbox"/> V/VI |
| <input type="checkbox"/> II/VI | <input type="checkbox"/> VI/VI |
| <input type="checkbox"/> III/VI | |

Jugular vein:

- | | |
|--|--|
| <input checked="" type="checkbox"/> Bottom 1/3 of the neck | <input type="checkbox"/> 1/2 way up the neck |
| <input type="checkbox"/> Middle 1/3 of the neck | <input type="checkbox"/> Top 2/3 of the neck |

Arterial pulses:

- | | |
|--|--|
| <input type="checkbox"/> Weak | <input type="checkbox"/> Bounding |
| <input checked="" type="checkbox"/> Fair | <input type="checkbox"/> Pulse deficits |
| <input type="checkbox"/> Good | <input type="checkbox"/> Pulse paradoxus |
| <input type="checkbox"/> Strong | <input type="checkbox"/> Other: |

Arrhythmic:

- | | |
|--|--------------------------------------|
| <input checked="" type="checkbox"/> None | <input type="checkbox"/> Bradycardia |
|--|--------------------------------------|

- Sinus arrhythmia
- Premature beats

- Tachycardia

Gallop:

- Yes
- No
- Intermittent

- Pronounced
- Other:

Pulmonary assessments:

- Eupneic
- Mild dyspnea
- Marked dyspnea
- Normal BV sounds

- Pulmonary crackles
- Wheezes
- Upper airway stridor

Abdominal exam:

- Normal
- Hepatomegaly
- Abdominal distension

- Mild ascites
- Marked ascites

Problems:

Suspected DCM based on previous echo findings

Differential Diagnoses:

DCM - diet-associated vs. primary

Diagnostic plan:

- Echocardiogram
- Chemistry profile
- ECG
- Renal profile
- Blood pressure

- Dialysis profile
- Thoracic radiographs
- NT-proBNP
- Troponin I
- Other tests: bloodwork for study

B6

Assessment and recommendations:

Patient has been doing well at home, but echocardiogram still reveals significant structural and functional changes to her heart. Measurements are stable overall. If renal values are stable then recommend

B6

know. Recheck in 3 months for blood work/echo/DCM study, or sooner if clinical signs occur such as increased RR/RE, cough, collapse, or exercise intolerance.

Final Diagnosis:

DCM; history of L-CHF

Heart Failure Classification Score:

ISACHC Classification:

- | | |
|--|-------------------------------|
| <input type="checkbox"/> Ia | <input type="checkbox"/> IIIa |
| <input type="checkbox"/> Ib | <input type="checkbox"/> IIIb |
| <input checked="" type="checkbox"/> II | |

ACVIM Classification:

- | | |
|-----------------------------|---------------------------------------|
| <input type="checkbox"/> A | <input checked="" type="checkbox"/> C |
| <input type="checkbox"/> B1 | <input type="checkbox"/> D |
| <input type="checkbox"/> B2 | |

M-Mode

IVSd

LVIDd

LVPWd

IVSs

LVIDs

LVPWs

EDV(Teich)

ESV(Teich)

EF(Teich)

%FS

SV(Teich)

Max LA

Ao Diam

LA Diam

LA/Ao

TAPSE

EPSS

M-Mode Normalized

IVSdN

LVIDdN

LVPWdN

IVSsN

LVIDsN

LVPWsN

2D

SA LA

Ao Diam

B6

cm

cm

cm

cm

cm

cm

ml

ml

%

%

ml

cm

cm

cm

cm

cm

cm

{0.290 - 0.520}

{1.350 - 1.730} !

{0.330 - 0.530}

{0.430 - 0.710} !

{0.790 - 1.140} !

{0.530 - 0.780}

cm

cm

SA LA / Ao Diam
IVSd
LVIDd
LVPWd
EDV(Teich)
IVSs
LVIDs
LVPWs
ESV(Teich)
EF(Teich)
%FS
SV(Teich)

Doppler

MR Vmax
MR maxPG
MVE Vel
MV DecT
MV Dec Slope
MVA Vel
MVE/A Ratio
E'
E/E'
A'
AV Vmax
AV maxPG
PV Vmax
PV maxPG

B6

cm
cm
cm
ml
cm
cm
cm
ml
%
%
ml

m/s
mmHg
m/s
ms
m/s
m/s

m/s

m/s
m/s
mmHg
m/s
mmHg

Discharge Instructions

Patient

Name: B6

Species: Canine

Gold Male (Neutered) Golden Retriever

Birthdate: B6

Owner

Name: B6

Address: B6

Patient ID: B6

Attending Cardiologist: John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

Cardiology Resident:

B6

Cardiology Technician:

B6

Student: B6 V'19

Admit Date: B6 10:05:33 AM

Discharge Date: B6

Diagnoses:

1. Decreased contractile function and mildly enlarged heart
2. Low normal whole blood taurine levels

Clinical Findings:

Thank you for bringing B6 to Tufts to screen him for heart disease related to being on a grain free diet. Labwork from your referring veterinarian showed that B6 taurine levels were lower than we would like. On physical exam there were no abnormalities while listening to his heart, and he had nice strong pulses.

B6 echocardiogram today showed that his heart is not normal for a 3 year old golden retriever. His contractile function is decreased and his heart is mildly enlarged. He also has a small leak at his mitral and tricuspid valves. His EKG showed a normal heart rhythm.

We have enrolled B6 in our DCM study that is looking at heart disease associated with grain free, boutique and exotic diets. We have submitted bloodwork for the study and will inform you of the results. At this time we would like to start B6 on taurine supplementation, but do not need to start him on any heart medications.

Monitoring at Home:

B6 is very stable today and is not close to heart failure. However, please monitor for him for any weakness or collapse, a reduction in appetite, cough or distension of the belly. If you notice any abnormalities we would like to see him for a recheck exam.

If you ever have any concerns, please call or have B6 evaluated by a veterinarian. Our emergency clinic is open 24 hours

a day.

Diet Suggestions:

Please continue feeding **B6** the Purina Pro Plan diet.

Recommended Medications:

1. Taurine Supplement - Give 1000mg by mouth every 12 hours.

(brands we recommend include TwinLab, Swanson, NOW and GNC brands)

Taurine is an amino acid that is shown to be necessary for appropriate heart health. Supplementing Taurine, in some cases, has lead to reduction in heart enlargement and an increase in heart health in dogs with DCM.

NEXT DOSE DUE: tonight or tomorrow morning

Recheck Visits: We would like to see **B6** back for a recheck appointment in **3 months**. At this visit we will want to recheck an echocardiogram and bloodwork.

Thank you for entrusting us with **B6** care, he was a wonderful patient! Please contact our Cardiology liaison at (508)-887-4696 or email us at cardiovet@tufts.edu for scheduling and non-emergent questions or concerns.

Please visit our HeartSmart website for more information

<http://vet.tufts.edu/heartsmart/>

Prescription Refill Disclaimer:

For the safety and well-being of our patients, your pet must have had an examination by one of our veterinarians within the past year in order to obtain prescription medications.

Ordering Food:

Please check with your primary veterinarian to purchase the recommended diet(s). If you wish to purchase your food from us, please call 7-10 days in advance (508-887-4629) to ensure the food is in stock. Alternatively, veterinary diets can be ordered from online retailers with a prescription/veterinary approval.

Clinical Trials:

Clinical trials are studies in which our veterinary doctors work with you and your pet to investigate a specific disease process or a promising new test or treatment. Please see our website: vet.tufts.edu/cvmc/clinical-studies

Case: **B6**

Owner: **B6**

Discharge Instructions

Amino Acid Laboratory Sample Submission Form

Amino Acid Laboratory
1089 Veterinary Medicine Drive
Davis, Ca 95616

Telephone: 530-752-5058, Fax: 530-752-4698

Email: ucd.aminoacid.lab@ucdavis.edu

www.vetmed.ucdavis.edu/labs/amino-acid-laboratory

Veterinarian Contact:

B6

Clinic/Company Name:

B6

Address:

B6

Email:

Telephone:

B6

Fax:

B6

Billing Contact:

B6

Email:

B6

Patient Name:

B6

Species:

CANINE

Breed: **GOLDEN**

RETRIEVER

Owner's Name:

B6

Current Diet:

B6

- 10/1/18 - SIGNATURE TROUT + SALMON

10/1/18 - 10/12/18 NATURES VARIETY INSTINCT RAW BEEF + BARLEY

10/12/18 - NOW - PURINA PRO PLAN SPORT 30/20

Sample type: Plasma Whole Blood Urine Food Other

Test: Taurine Complete Amino Acids Other:

Taurine Results (lab use only)

Plasma:

Whole Blood:

Urine:

Food:

B6

nMOL/mL

Discharge Instructions

Patient

Name: B6

Species: Canine

Mahogany Male (Neutered) Pit Bull

Birthdate: B6

Owner

Name: B6

Address: B6

Patient ID: B6

Attending Cardiologist:

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

Cardiology Resident:

B6

Cardiology Technician:

B6

Student: B6 V19

Admit Date: 4/26/2019 2:17:55 PM

Discharge Date: 4/26/2019

Diagnoses: Dilated cardiomyopathy (DCM) with history of congestive heart failure

Case summary:

B6 was diagnosed with a heart muscle disease called dilated cardiomyopathy (DCM) in March. He was started on several cardiac medications at that time as well as a change in diet since he had been on a grain-free diet. Since then, he has shown improvement in his appetite and weight; however, he is still coughing and experiencing some exercise intolerance. On physical examination today, he is very bright and alert. We could hear a small Grade II/VI heart murmur that was noted previously.

We performed an echocardiogram (ultrasound of the heart) which confirms B6 still has DCM. This disease is characterized by thinning of the walls of the heart, reduced cardiac pump function, and enlargement of the upper chambers of the heart. B6 has a leak at his mitral valve (valve between his left atrium and ventricle) which is the cause of his murmur. His mitral valve is slightly thickened as well so he could also have a component of a congenital mitral valve disease. The medications he is currently on are the same medications we would be using to treat any mitral valve disease. An ECG was performed to evaluate his heart rhythm which showed normal rhythm today. We also took chest x-rays to determine if he still has evidence of fluid in his lungs that could be contributing to his cough. His x-rays are improved compared to those taken previously by his primary care veterinarian but his lungs still have residual fluid. Because of this, we made adjustments to his medications as detailed below. Finally, we also collected blood to ensure his kidneys are tolerating his cardiac medications and for cardiac biomarkers useful for monitoring his disease progression and for the research study. We will call you with the results of this bloodwork.

Monitoring at home:

- We would like you to monitor your dog's breathing rate and effort at home, ideally during sleep or at a time of rest. The doses of drugs will be adjusted based on the breathing rate and effort.
- In general, most dogs with heart failure that is well controlled have a breathing rate at rest of less than 35 to 40 breaths per minute. In addition, the breathing effort, noted by the amount of belly wall motion used for each breath, is fairly minimal if heart failure is controlled.
- An increase in breathing rate or effort will usually mean that you should give an extra dose of **B4** if difficulty breathing is not improved by within 30-60 minutes after giving extra **B4**; then we recommend that a recheck exam be scheduled and/or that your dog be evaluated by an emergency clinic.
- There are instructions for monitoring breathing, and a form to help keep track of breathing rate and drug doses, on the Tufts HeartSmart web site (<http://vet.tufts.edu/heartsmart/at-home-monitoring/>).
- We also want you to watch for weakness or collapse, a reduction in appetite, worsening cough, or distention of the belly as these findings indicate that we should do a recheck examination.
- If you have any concerns, please call or have your dog evaluated by a veterinarian. Our emergency clinic is open 24 hours/day.

Recommended Medications:

B6

Diet suggestions:

Dogs with heart failure accumulate more fluid in their body if they eat large amounts of sodium (salt). Sodium can be found in all foods, but some foods are lower in sodium than others. Many pet treats, people foods, and supplements used to give pills often have more sodium than is desirable - a sheet that has suggestions for low sodium treats can be found on the HeartSmart web site (<http://vet.tufts.edu/heartsmart/diet/>). Unfortunately, the pigs ears and pupperoni treats are high in sodium so should be avoided.

Your dog's usual diet may also have more sodium than recommended - we want him/her to continue to eat his/her normal diet for the first 7 to 14 days so we can make sure he is tolerating medications well, but after that time we would recommend slowly introducing one of the lower sodium diets on the HeartSmart list (25% of the new diet and 75% old diet for 2-3 days, then 50/50, etc.). Hopefully you can find a diet on the list that your dog likes to eat. Alternatively, if you are attached to the current diet you can research the amount of sodium in the diet to ensure that the sodium content is similar to those on the list.

- The FDA is currently investigating an apparent association between diet and a type of heart disease called dilated cardiomyopathy. The exact cause is still unclear, but it appears to be associated with boutique diets and those

containing exotic ingredient or are grain-free. Therefore, we are currently recommending that dogs do not eat these types of diets.

- o We recommend switching B6 to commercial diet made by a well-established company that is not grain-free and does not contain any exotic ingredients, such as kangaroo, duck, lamb, venison, lentils, peas, beans, buffalo, tapioca, barley, and chickpeas.
- o The FDA issued a statement regarding this issue (<https://www.fda.gov/AnimalVeterinary/NewsEvents/CVMUpdates/uom613305.htm>) and a recent article published by Dr. Lisa Freeman on the Cummings School's Pet Foodology blog can further explain these findings (<http://vetnutrition.tufts.edu/2018/06/a-broken-heart-risk-of-heart-disease-in-boutique-or-grain-free-diets-and-exotic-ingredients/>).
- o Our nutritionists have compiled a list of dog foods that are good options for dogs with heart disease.

Dry Food Options:

Royal Canin Early Cardiac (veterinary diet)

Royal Canin Boxer

Purina Pro Plan Adult Weight Management

Purina Pro Plan Bright Mind Adult Small Breed Formula

Canned Food Options:

Hill's Science Diet Adult 1-6 Healthy Cuisine Roasted Chicken, Carrot, and Spinach Stew

Royal Canin Mature 8+

We think Royal Canin Boxer or the Royal Canin Early Cardiac diets would be good choices for B6. We have sent you home with a sample of the Royal Canin Boxer diet. If your dog has special nutritional needs or requires a homecooked diet, we recommend you schedule an appointment with our nutritionists (508-887-4696).

Exercise Recommendations:

For the first 7 to 10 days after starting medications for heart failure we recommend very limited activity. Leash walking only is ideal, and short walks to start. Once the heart failure is better controlled, then slightly longer walks are acceptable. However, if you find that B6 lagging behind or needs to stop on a walk then this was too long a walk and shorter walks are advised in the future. Repetitive or strenuous high energy activities (repetitive ball chasing, running fast off-leash, etc.) are generally not advised at this stage of heart failure.

Recheck Visits:

A recheck visit is scheduled for Friday, May 3rd at 11:00 AM to recheck his bloodwork to see if he is tolerating the changes to his medications. Additionally, recheck visits at 3 months and 6 months are needed for monitoring and would be covered by the DCM study.

Thank you for entrusting us with B6 care; he is a very sweet boy! Please contact our Cardiology liaison at (508)-887-4696 or email us at cardiovet@tufts.edu for scheduling and non-emergent questions or concerns.

Please visit our HeartSmart website for more information

<http://vet.tufts.edu/heartsmart/>

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Please check with your primary veterinarian to purchase the recommended diet(s). If you wish to purchase your food from us, please call 7-10 days in advance (508-887-4629) to ensure the food is in stock. Alternatively, veterinary diets can be ordered from online retailers with a prescription/veterinary approval.

Clinical Trials:

Clinical trials are studies in which our veterinary doctors work with you and your pet to investigate a specific disease process or a promising new test or treatment. Please see our website: vet.tufts.edu/cvmr/clinical-studies

Case: B6

Owner: B6

Discharge Instructions

Nutritional Tips for Pets with Heart Disease

Low sodium, high quality pet treats

Notes:

1. Most other dog treats are high in sodium.
2. If your pet has other medical conditions, these treats may not be appropriate. Talk to your veterinarian if you have questions or make an appointment with the Nutrition Service.

Product	Calories per treat
Dogs	
Hill's Science Diet Baked Light Biscuits with Real Chicken Small Dog Treat	8
Hill's Science Diet Baked Light Biscuits with Real Chicken Medium Dog Treat	34
Hill's Science Diet Soft Savories Peanut Butter & Banana, Beef & Cheddar, or Chicken & Yogurt Dog Treat	25-27, depending on flavor
Hill's Ideal Balance Soft-Baked Naturals with Chicken & Carrots, Duck & Pumpkin, or Beef & Sweet Potato Dog Treat	12-13, depending on flavor
Purina Beyond Natural Salmon Dog Biscuit Treat with Oats or Chicken & Barley	27-29, depending on flavor
Purina Alpo Variety Snaps Little Bites (beef, chicken, liver, lamb or beef, bacon, cheese, peanut butter)	16
Purina Alpo Variety Snaps Big Bites (beef, chicken, liver, lamb)	58
Royal Canin Original Canine treat	5
Cats	
Royal Canin Original Feline treat	2
Fancy Feast Duos Natural Rotisserie Chicken Cat treat	2
Fancy Feast Duos Tuna with Accents of Parsley Cat treat	2

Taste enhancers to can make your pet's food tastier to increase food intake

Safe and effective appetite stimulants are now available for dogs and cats. Please talk to your veterinarian if your pet is not eating well, not eating ideal foods, or is losing weight.

Notes:

1. All foods in this list should be prepared without salt
2. These taste enhancers should be added in small amounts. If your pet eats too much of them, they will unbalance the diet and increase your pet's risk for nutritional deficiencies

Dogs

- ♥ Honey or maple syrup
- ♥ Homemade chicken, beef, or fish broth (made without salt; avoid all deli meats and rotisserie chicken). Avoid store bought broths because even the low sodium brands are too high in sodium.
- ♥ Sugar (brown or white) – Domino pourable light brown sugar is a good option
- ♥ Vanilla or fruit yogurt – One option that dogs seem to like is Yoplait Custard Yogurt (caramel or vanilla flavors). If you try other brands, just be sure the sodium is less than 100 mg per 100 calories (the Yoplait is 95 mg per 170 calories which comes out to 56 mg sodium per 100 calories). Also avoid yogurts with artificial sweeteners.
- ♥ Maple syrup. Low salt brands include Log Cabin All Natural, Maple Grove Farm 100% pure maple syrup, or Stop and Shop Original Syrup
- ♥ Applesauce (be sure they have less than 50 mg sodium per serving)
- ♥ Ketchup (no salt added). Examples include Hunts or Heinz no salt added
- ♥ Pasta sauce (no salt added). Examples: Francesco Rinaldi no salt added or Enrico's no salt added)
- ♥ Frosted Mini Wheats Original – these can be crumbled on his food
- ♥ Lean meats, cooked (chicken, turkey, beef, or fish) – not deli/sandwich meats/cold cuts, rotisserie chicken, and any canned fish or meat
- ♥ Eggs, cooked

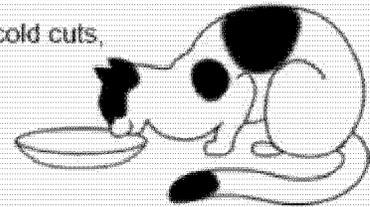


Dogs (continued)

- ♥ Homemade chicken, beef, or fish broth (even low sodium store-bought broths are too high in sodium). Avoid all canned soups unless labeled as no salt added
- ♥ Low-salt breakfast cereal - the label should read, "very low sodium food" or contain less than 20 mg sodium per serving. A good option is Frosted Mini Wheats Original or Little Bites Original
- ♥ Fresh vegetables/fruit. Examples include carrots, green beans, apple, orange, banana (avoid grapes, raisins, onions, garlic)
- ♥ Low sodium canned dog foods

Cats

- ♥ Lean meats, cooked (chicken, turkey, beef, or fish) – not sandwich meats/cold cuts, canned tuna, or rotisserie chicken
- ♥ Eggs, cooked
- ♥ Homemade chicken, beef, or fish broth (even low sodium store-bought broths are too high in sodium)
- ♥ Low sodium canned cat foods



Foods to avoid

- ♥ Fatty foods (meat trimmings, cream, ice cream)
- ♥ Baby food
- ♥ Pickled foods
- ♥ Bread
- ♥ Pizza
- ♥ Condiments (ketchup, soy sauce, barbecue sauce, etc – unless they are unsalted or no salt added)
- ♥ Sandwich meats/cold cuts (ham, corned beef, salami, sausages, bacon, hot dogs)
- ♥ Rotisserie chicken
- ♥ Most cheeses, including "squirtable" cheeses
- ♥ Processed foods (such as, potato mixes, rice mixes, macaroni and cheese)
- ♥ Canned vegetables (unless "no salt added")
- ♥ Potato chips, packaged popcorn, crackers, and other snack foods
- ♥ Soups (unless homemade without salt)
- ♥ Most commercial pet treats

Tips for administering medications

Foods commonly used to administer your pet's pills can provide a large amount of additional salt to your pet's diet. Preferable ways to give medications include:

- ♥ Have one of our staff show you how to give medications without using food
- ♥ Insert medications into one of the following foods:

Dogs or cats

- Low-sodium canned pet food
- Home-cooked meat such as chicken or hamburger (made without salt); not lunch meats
- Whipped cream (Reddi Wip)
- Marshmallows
- Greenies Pill Pockets
 - Dog chicken, hickory smoke, or peanut butter flavors; cat chicken or salmon flavor
 - Avoid grain-free duck and pea which is high in sodium
 - Try to use the smallest size possible (ideally, the cat sized Pill Pockets, even for dogs) and as few as possible to avoid excessive salt.
 - Caution: Not all similar products from other companies are low in sodium.

Dogs

- Soft fruit, such as banana, orange, melon, or strawberries (avoid grapes)
- Peanut butter (only if labeled as "no salt added") – examples include Smucker's Natural Creamy Peanut Butter with No Salt Added or Teddie All Natural Smooth Unsalted Butter
- Frosting (should be less than 75 mg/serving and contain no artificial sweeteners or xylitol). Examples include Duncan Hines whipped vanilla frosting, Betty Crocker whipped vanilla frosting)

You may find our Petfoodology post called, "Pill-popping pets" helpful for additional ideas:

http://vetnutrition.tufts.edu/2018/09/foods_for_giving_pills/

Cummings Veterinary Medical Center

AT TUFTS UNIVERSITY

Cardiology Liaison: 508-887-4696

B6

Patient ID: B6

B6 Canine

B6 Years Old Male (Neutered) Pit Bull
Mahogany

Cardiology Appointment Report DCM STUDY

Date: 4/26/2019

Attending Cardiologist:

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

Cardiology Resident:

B6

Cardiology Technician:

B6

Student: B6 V19

Presenting Complaint: DCM

Concurrent Diseases:

None

General Medical History:

Diagnosed with DCM in March.

In March, owners noticed he was coughing alot and had labored breathing. rDVM did x-ray and showed enlarged heart. Also treated for potential kennel cough at that time. Referred to CAVES (emergency room) where they did cardiac workup which showed DCML. He was immediately started on cardiac medications and diet change. Since starting meds and changing diet, still coughing but gaining weight. Coughing in the middle of the night, after exercise/excitement; roughly 10 times per day. Owner trying to limit exercise, but B6 has always had good energy. After exercise sometimes seems to have trouble catching his breath. Owner has not been counting RR at home. Appetite has been decreased prior to DCM diagnosis but has improved since starting meds.

Diet and Supplements:

Previous diet: Venison and red lentils (Pure Vida), canned food- natural balance venice and sweet potatoe; treats- natural balance venison and fish

Current Diet: Nutri Source Chicken and Rice (dry and canned), treats, cooked chicken.

Cardiovascular History:

Prior CHF diagnosis? Yes

Prior heart murmur? Y Grade II/VI left sided

Prior ATE? N

Prior arrhythmia?

Monitoring respiratory rate and effort at home? Effort increased during exercise, not monitoring rate

Cough? Yes

Shortness of breath or difficulty breathing? After exercise

Syncope or collapse? No

Sudden onset lameness? No

Exercise intolerance? Tires easier because of cough

B6

Muscle condition:

Normal

Mild muscle loss

Moderate cachexia

Marked cachexia

Cardiovascular Physical Exam:

Murmur Grade:

None

I/VI

II/VI

III/VI

IV/VI

V/VI

VI/VI

B6

Jugular vein:

- Bottom 1/3 of the neck
- Middle 1/3 of the neck

- 1/2 way up the neck
- Top 2/3 of the neck

Arterial pulses:

- Weak
- Fair
- Good
- Strong

- Bounding
- Pulse deficits
- Pulsus paradoxus
- Other:

Arrhythmia:

- None
- Sinus arrhythmia
- Premature beats

- Bradycardia
- Tachycardia

Gallop:

- Yes
- No
- Intermittent

- Pronounced
- Other:

Pulmonary assessments:

- Eupneic
- Mild dyspnea
- Marked dyspnea
- Normal BV sounds

- Pulmonary crackles
- Wheezes
- Upper airway stridor

Abdominal exam:

- Normal
- Hepatomegaly
- Abdominal distension

- Mild ascites
- Marked ascites

Problems and Differential Diagnoses:

History of DCM: R/O- diet-associated vs. taurine vs. primary

Cough: R/O- secondary to DCM vs. less likely infectious

Diagnostic plan:

- Echocardiogram
- Chemistry profile
- ECG
- Renal profile
- Blood pressure

- Dialysis profile
- +/- Thoracic radiographs
- NT-proBNP
- Troponin I
- Other tests: DCM Study- taurine

B6

Mitral inflow:

- Summated
- Normal

- Pseudonormal
- Restrictive

Delayed relaxation

B6

Assessment and recommendations:

The patient is still in mild CHF based on radiographs. We are therefore going to increase his Recheck renal values in 1-2 weeks. If renal values are normal at that time, we will increase Recheck echocardiogram in 3 months. Patient enrolled in the DCM diet study. We recommend switching the patient to the RC Boxer diet.

Final Diagnosis:

DCM with LCHF. R/O diet-induced, primary, toxin
+/- mitral valve dysplasia

Heart Failure Classification Score:

ISACHC Classification:

- Ia
- Ib
- II
- IIIa
- IIIb

ACVIM Classification:

- A
- B1
- B2
- C
- D

M-Mode

IVSd	cm
LVIDd	cm
LVPWd	cm
IVSs	cm
LVIDs	cm
LVPWs	cm
EDV(Teich)	ml
ESV(Teich)	ml
EF(Teich)	%
%FS	%
SV(Teich)	ml
Ao Diam	cm
LA Diam	cm
LA/Ao	
Max LA	cm
TAPSE	cm
EPSS	cm

B6

M-Mode Normalized

IVSdN	B6	(0.290 - 0.520)
LVIDdN		(1.350 - 1.730) !
LVPWdN		(0.330 - 0.530)
IVSsN		(0.430 - 0.710)
LVIDsN		(0.790 - 1.140) !
LVPWsN		(0.530 - 0.780)
Ao Diam N		(0.680 - 0.890) !
LA Diam N	(0.640 - 0.900) !	

2D

SALA	B6	cm
Ao Diam		cm
SALA / Ao Diam		
IVSd		cm
LVIDd		cm
LVPWd		cm
EDV(Teich)		ml
IVSs		cm
LVIDs		cm
LVPWs		cm
ESV(Teich)		ml
EF(Teich)		%
%FS		%
SV(Teich)		ml
LVLd A4C		cm
LVEDV MOD A4C		ml
LVLs A4C		cm
LVESV MOD A4C		ml
LVEF MOD A4C		%
SV MOD A4C		ml

Doppler

MR Vmax	B6	m/s
MR maxPG		mmHg
MV E Vel		m/s
MV DecT		ms
MV Dec Slope		m/s
MV A Vel		m/s
MV E/A Ratio		
E'		m/s
E/E'		
A'		m/s
S'		m/s
AV Vmax		m/s
AV maxPG		mmHg
PV Vmax		m/s
PV maxPG		mmHg

B6

B6 Male (Neutered)
Canine Pit Bull Mahogany
Patient ID: **B6**

Outside Prescription Log

1. Date: **B6**
Clinician: **B6**
Prescription: RC vet diet original dog treats, unlimited
Pharmacy sent to: chewy 800-994-4358 (order **B6**)
Completed by: **B6**
Origin of request: chewy

2. Date:
Clinician:
Prescription:
Pharmacy sent to:
Completed by:
Origin of request:

3. Date:
Clinician:
Prescription:
Pharmacy sent to:
Completed by:
Origin of request:

4. Date:
Clinician:
Prescription:
Pharmacy sent to:
Completed by:
Origin of request:

5. Date:
Clinician:
Prescription:
Pharmacy sent to:
Completed by:
Origin of request:

6. Date:
Clinician:
Prescription:
Pharmacy sent to:
Completed by:
Origin of request:

7. Date:

Clinician :
Prescription:
Pharmacy sent to:
Completed by:
Origin of request:

8. Date:

Clinician :
Prescription:
Pharmacy sent to:
Completed by:
Origin of request:

9. Date:

Clinician :
Prescription:
Pharmacy sent to:
Completed by:
Origin of request:

10. Date:

Clinician :
Prescription:
Pharmacy sent to:
Completed by:
Origin of request:

Cummings
Veterinary Medical Center
AT TUFTS UNIVERSITY

Foster Hospital for Small Animals
55 Willard Street
North Grafton, MA 01536
Telephone (508) 839-5395
Fax (508) 839-7951
<http://vetmed.tufts.edu/>

B6

B6

Male (Neutered)

Canine Pit Bull Mahogany

B6

B6

Dear **B6**

Thank you for referring **B6** with their pet **B6**

If you have any questions, or concerns, please contact us at 508-887-4988.

Thank you,

B6 DVM, DACVIM (Cardiology), PhD



Foster Hospital for Small Animals

55 Willard Street
North Grafton, MA 01536
(508) 839-5395

All Medical Records

Client: [B6]
Address: [B6]

Patient: [B6]
Breed: Golden Retriever
DOB: [B6]

Species: Canine
Sex: Male
(Neutered)

Home Phone: [B6]
Work Phone: () - -
Cell Phone: [B6]

Referring Information

[B6]

Client: [B6]
Patient: [B6]

Initial Complaint:

Scanned Record

Initial Complaint:

New [B6] - DCM study

SOAP Text [B6] 12:08PM [B6]

Disposition/Recommendations

Client:
Patient:

B6

Client: **B6**
Patient: **B6**



Foster Hospital for Small Animals

55 Willard Street
North Grafton, MA 01536
(508) 839-5395

Client: **B6**
Veterinarian:
Patient ID: **B6**
Visit ID:

Patient:	B6
Species:	Canine
Breed:	Golden Retriever
Sex:	Male (Neutered)
Age:	B6 Years Old

Lab Results Report

B6		1:29:30 PM	Accession ID: B6
Test	Results	Reference Range	Units
Troponin I Research - FHSA	B6	0 - 0.08	mg/dl



3/22

B6

B6

Printed Friday, November 09, 2018

Client:
Patient:

B6

RDVM

B6

records

B6

B6

B6

Page 1 of 3

Client: **B6**
Patient:

RDVM: **B6** records

B6

B6

B6

Client:
Patient:

B6

RDVM

B6

records

B6

B6

B6

Client: **B6**
Patient:

RDVM **B6** records

B6

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B6

Page 4 of 8

Client: **B6**
Patient:

RDVM **B6** records

B6

B6

B6

Page 3 of 3

Client: **B6**
Patient:

RDVM **B6** records

B6

B6

B6

MEDICAL HISTORY
Date: By: Code:

B6

08/01/2018 02:15 PM

HTC
HGT
HFB
MCV
MCH
MCHC
RDW
SRETIC
RFTIC
RWC
SMBI
GLYM
SMBHO
SMBOR

B6

150.0 160 144.0
170.0 50.0 %
12.0 45.0 g/dL
100.0 77.0 fL
45.0 50.0 pg
35.0 37.0 g/dL
14.7 13.0 %
15.0 1.0 0.0 g/dL
150 10 00 K/gL
%
%
%
%

B6

Client:
Patient:

B6

RDVM:

B6

records

B6

B6

ALB
ALT
AST
BUN
BUNCREA
CALC
CHOL
CREA
GLUC
HGB
HCT
HDL
HDL-C
HDL2
HDL3
HDL3-C
HDL3-C2
HDL3-C3
HDL3-C4
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HDL3-C100

200-12-00 H4A
0.50-4.90 H4A
0.30-2.50 H4A
0.70-1.40 H4A
0.00-0.01 H4A
1.00-2.00 H4A
R
R
R
74-143 mg/dL
0.5-1.8 mg/dL
7.07 mg/dL
3.3-5.7 g/dL
2.3-4.0 g/dL
2.3-4.7 g/dL
90-125 U/L
80-210 U/L

B6

B6

B6

SNAP Protocol Data
10/26/2017 07:18 PM

B6

ALB
ALT
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HDL3-C99
HDL3-C100

Client: **B6**
Patient: **B6**

RDVM **B6** records

FECAL ANALYSIS: (In House)

B6

B6

Technician: _____
Date: _____
FACILITY: _____

Appearance: Normal Loose Diarr
Mucus Blood Color:

Fecal Centrifugation: Negative Positive

Direct Smear: Negative Positive

Parasites:

Trichostrongylus	<input type="checkbox"/>	Cyathostomum	<input type="checkbox"/>
Tricostephanus	<input type="checkbox"/>	Giarbia	<input type="checkbox"/>
Whipworm	<input type="checkbox"/>	Coccidia	<input type="checkbox"/>
Tapeworm	<input type="checkbox"/>	Other	<input type="checkbox"/>
	<input type="checkbox"/>		<input type="checkbox"/>

* Economic: transmissible to humans and other animals.

Unusable Sample Why? _____

Comments:

Client: **B6**
Patient:

RDVM: **B6** records

FECAL ANALYSIS: (In House)

B6

B6

Technician

DATE

TIME

Appearance: Normal Loose Diarr
Mucus Blood Color

Fecal Centrifugation: Negative Positive

Direct Smear: Negative Positive

Parasites:

Trichostrongylus	<input type="checkbox"/>	Cyathostomum	<input type="checkbox"/>
Tricostephanus	<input type="checkbox"/>	Giarbia	<input type="checkbox"/>
Whipworm	<input type="checkbox"/>	Coccidia	<input type="checkbox"/>
Tapeworm	<input type="checkbox"/>	Other	<input type="checkbox"/>
<input type="checkbox"/>			<input type="checkbox"/>

* Economic: transmissible to humans and other animals

Unusable Sample Why?

Comments:

Client: **B6**
Patient:

RDVM p **B6** records

B6

B6

GLU
BUN
CREA
BUNCREA
TP
ALB
GLSB
ALB/GLOB
ALT
ALP
AP_{HE}
ECF
HIV
LIPID

10/18/2018 02:30 PM

B6

14.183 mg/dL
7.27 mg/dL
0.518 mg/dL
3.342 g/dL
2.340 g/dL
3.548 g/dL
88.129 U/L
29.212 U/L

B6

B6

Page 11 of 8

Client: **B6**
Patient: **B6**

RDVM **B6** records

FECAL ANALYSIS: (In House)

B6

Technician

B6

Appearance

Normal Loose Diarr
Mucus Blood Color

Fecal Centrifugation

Negative Positive

Direct Smear

Negative Positive

Parasites

Trichostrongylus Cystisporidia
Trichostrongylus Giardia
Whipworm Coccidia
Trichostrongylus Other

* Economic: transmissible to humans and other animals

Unusable Sample

Why?

Comments

Client: **B6**
Patient: **B6**

IDEXX BNP - 11/8/2018

B6

B6
B6

B6
B6

B6

B6

Client: **B6**
Patient:

CBC/Chem - 11/7/2018



Tufts Cummings School Of Veterinary Medicine
130 Weymouth Road
North Grafton, MA 01536

DUPLICATE

Name DOB: **B6** Sex: **SM** Foundation: **B6**
Patient ID: **B6** Age: 7 Order Location: **B6** Veterinary Team: **B6**
Phone number: _____
Collection Date: 11/07/2018 11:30 AM Species: **Canine** Sample ID: **B6**
Approval date: 11/07/2018 2:29 PM Breed: **Golden Retriever**

CBC (Research) (Advia)

TEST/REF	Ref. Range/Units
WBC (ADVA) B6	6.45-17.00 K/uL
RBC (ADVA)	7.80-9.20 M/uL
Hemoglobin (ADVA)	15.3-20.7 g/dL
Hematocrit (ADVA)	38-52 %
HCTV (ADVA)	84.3-77.5 mL
MCH (ADVA)	33.3-37.8 pL
MCHC (ADVA)	31.8-34.3 g/dL
KDW (ADVA)	81.8-85.2
Comment: (Hematology)	plasma 10% total (removed count of 200,000-250,000)

Microscopic Exam of Blood Smear (Advia)

TEST/REF	Ref. Range/Units
Seg. Neut (%) B6	43-66 %
Lymphocyte (%)	7-27 %
Monocyte (%)	1-11 %
Eosinophile (%)	0-15 %
Seg. Neutrophils (Adv)	2,000-11,000 K/uL
Albina	
Lymphs (Adv) Albina	1,500-4,000 K/uL
Monos (Adv) Albina	200-1,000 K/uL
Eosinophils (Adv) Albina	0-200-1,000 K/uL
WBC Morphology	pathologic abnormalities
Platelets	

Research Chemistry Profile - Small Animal (Cobas)

TEST/REF	Ref. Range/Units
Glucose B6	67-111 mg/dL
Urea	8-20 mg/dL
Creatinin	0.8-1.8 mg/dL
Phosphorus	2.8-7.2 mg/dL
Calcium T	9.4-11.7 mg/dL
Magnesium T	1.8-2.2 mg/dL
Total Protein	5.5-7.8 g/dL
Albumin	2.8-4.8 g/dL
Globulin	2.5-4.2 g/dL
BUN Ratio	0.7-1.8
Sodium	143-168 mEq/L
Chloride	106-132 mEq/L
Potassium	3.7-6.4 mEq/L
KCO2 (Equiv)	14.28 mEq/L
ATPAP	0-0.04
Na:Cl	0.8-0.9
Total Bilirubin	0.26-0.50 mg/dL

Sample ID: 181107002.1.0
Disseminated Intravascular Coagulation (DIC)

Received by: _____

Client: **B6**
Patient:

CBC/Chem - 11/7/2018



Tufts Cummings School Of Veterinary Medicine
130 Waverley Road
North Grafton, MA 01133

DUPLICATE

Specimen ID: **B6** Sex: M Age: 3
Patient ID: **B6** Order Location: **B6**
Specimen Number: Sample ID: **B6**
Collection Date: 11/07/2018 11:10 PM Species: Canine
Approval Date: 11/07/2018 2:29 PM Breed: German Shepherd

Research Chemistry Profile - Small Animal (Cobas) (cont'd)

ANALYTE	Ref. Range (Units)
Bilirubin	0.00-0.10 mg/dL
Albumin	0.20-0.28 mg/dL
ALT	10-27 U/L
AST	5-10 U/L
Gamma-GT	12-40 U/L
Cholesterol	81-251 mg/dL
Triglycerides	25-228 mg/dL
Urea Nitrogen	2.0-12.0 U/L
Creatinine	0.5-1.5 mg/dL

B6

Sample ID: **B6**
11/07/2018 11:10 PM

Page 1

Client:
Patient:

B6

Vitals Results

11/7/2018 11:32:13 AM

Weight (kg)

25.9000

Client: **B6**
Patient:

ECG from cardio

B6

B6

12-11-2019 11:00 AM Page 19 of 22
The University
of the Pacific School of Law
12/11/2019

B6

Client: **B6**
Patient:

ECG from cardio

B6

B6

12-11-11 11:11 AM Page 2 of 2
The University
of the South Florida
Library

B6

Client:
Patient:

B6

ECG from cardio

B6

B6

11-11-11 11:11

11-11-11 11:11
11-11-11 11:11
11-11-11 11:11

B6

Client: **B6**
Patient:

Patient History

11/05/2018 10:46 AM	Appointment
11/05/2018 12:36 PM	Appointment
11/07/2018 10:07 AM	UserForm
11/07/2018 10:48 AM	UserForm
11/07/2018 10:53 AM	Treatment
11/07/2018 11:32 AM	Vitals
11/07/2018 12:08 PM	Purchase
11/07/2018 12:18 PM	UserForm
11/07/2018 01:29 PM	Labwork
11/07/2018 01:30 PM	Purchase
11/07/2018 01:30 PM	Purchase
11/07/2018 01:30 PM	Purchase

B6

Discharge Instructions

Patient

Name: B6

Species: Canine

Gold Male (Neutered) Golden Retriever

Birthdate: B6

Owner

Name: B6

Address: B6

Patient ID: B6

Attending Cardiologist:

John E. Rush, DVM, MS, DACVIM (Cardiology), DACVCP

B6

Cardiology Resident:

B6

Cardiology Technician:

B6

Student:

B6

/19,

B6

/19

Admit Date: 1/24/2019 10:26:41 AM

Discharge Date: 1/24/2019

Diagnoses: Decreased contractile function and mildly enlarged heart (stable).

Clinical Findings:

Thank you for bringing B6 in today for his recheck echocardiogram. You report that B6 is doing well at home, although he sometimes has a dry cough after eating. On physical exam there were no abnormalities while listening to his heart, and he had nice strong pulses.

Today on echocardiogram (ultrasound of the heart) B6 heart looks similar to how it did previously. He still has a slight reduced contractile function and his heart is mildly enlarged which is abnormal for a dog of his age. This is not yet severe enough that B6 requires any additional medications, however, we recommend continuing him on his taurine supplement and we will continue to monitor his heart closely in the future.

Monitoring at Home:

B6 is very stable today and is not close to heart failure. However, please monitor for him for any signs of weakness or collapse, a reduction in appetite, cough, or distension of the belly. If you notice any abnormalities, we would like to see him for a recheck exam.

If you ever have any concerns, please call or have B6 evaluated by a veterinarian. Our emergency clinic is open 24 hours a day.

Diet Suggestions:

Please continue feeding B6 the Purina Pro Plan diet.

Exercise Recommendations: B6 may continue his normal activity and exercise regime

Recommended Medications:

1. Taurine Supplement - Give 1000mg by mouth every 12 hours.

(brands we recommend include Twinlab, Swanson, NOW and GNC brands)

Taurine is an amino acid that is shown to be necessary for appropriate heart health. Supplementing Taurine, in some cases, has lead to reduction in heart enlargement and an increase in heart health in dogs with DCM.

Recheck Visits: We would like to see B6 back for a recheck echocardiogram in 6 months.

Thank you for entrusting us with B6 care- he is such a good boy!. Please contact our Cardiology liaison at (508)-887-4696 or email us at cardiovet@tufts.edu for scheduling and non-emergent questions or concerns.

Please visit our HeartSmart website for more information

<http://vet.tufts.edu/heartsmart/>

Prescription Refill Disclaimer:

For the safety and well-being of our patients, your pet must have had an examination by one of our veterinarians within the past year in order to obtain prescription medications.

Ordering Food:

Please check with your primary veterinarian to purchase the recommended diet(s). If you wish to purchase your food from us, please call 7-10 days in advance (508-887-4629) to ensure the food is in stock. Alternatively, veterinary diets can be ordered from online retailers with a prescription/veterinary approval.

Clinical Trials:

Clinical trials are studies in which our veterinary doctors work with you and your pet to investigate a specific disease process or a promising new test or treatment. Please see our website: vet.tufts.edu/cvmc/clinical-studies

Case: B6

Owner: B6

Discharge Instructions

Cummings Veterinary Medical Center

AT TUFTS UNIVERSITY

Cardiology Liaison: 508-887-4696

B6

Patient ID: B6

B6 Canine

B6 Years Old Male (Neutered) Golden Retriever
Gold

Cardiology Appointment Report

Date: 1/24/2019

Attending Cardiologist:

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

Cardiology Resident:

B6

Cardiology Technician:

B6

Student: B6 V19, B6 V19

Presenting Complaint: DCM Study, last echocardiogram performed 11/2018 revealing decreased contractile function - r/o DCM vs. diet induce cardiomyopathy. Did not require medical intervention

B6 at that time, but initiated Taurine supplementation and diet change.

Concurrent Diseases: Apparently healthy pet

General Medical History: Owner states B6 coughs once in a while. When inquiring for more detail-owner said she notices it once a day after he eats a lot. Describes it as a dry cough. He vomited a week ago-unsure of consistency.

Diet and Supplements: Eats purina proplan sport, taurine supplement

Cardiovascular History:

Prior CHF diagnosis? No

Prior heart murmur? No

Prior ATE? No

Prior arrhythmia? No

Monitoring respiratory rate and effort at home? No

Cough? Yes

Shortness of breath or difficulty breathing? No

Syncope or collapse? No

Sudden onset lameness? No

Exercise intolerance? No

Current Medications Pertinent to CV System:

B6

Medication:

Formulation/Tab Size:

Administration Frequency:

Need refills?

Cardiac Physical Examination:

B6

Muscle condition:

- Normal
- Mild muscle loss
- Moderate cachexia
- Marked cachexia

Cardiovascular Physical Exam:

Murmur Grade:

- None
- I/VI
- II/VI
- III/VI
- IV/VI
- V/VI
- VI/VI

Murmur location/description:

Jugular vein:

- Bottom 1/3 of the neck
- Middle 1/3 of the neck
- 1/2 way up the neck
- Top 2/3 of the neck

Arterial pulses:

- Weak
- Fair
- Good
- Strong
- Bounding
- Pulse deficits
- Pulsus paradoxus
- Other:

Arrhythmia:

- None
- Sinus arrhythmia
- Bradycardia
- Tachycardia

Premature beats

Gallop:

- Yes
- No
- Intermittent

- Pronounced
- Other:

Pulmonary assessments:

- Eupneic
- Mild dyspnea
- Marked dyspnea
- Normal BV sounds
- Pulmonary crackles
- Wheezes
- Upper airway stridor

Abdominal exam:

- Normal
- Hepatomegaly
- Abdominal distension
- Mild ascites
- Marked ascites

Problems:

Differential Diagnoses:

Diagnostic plan:

- Echocardiogram
- Chemistry profile
- ECG
- Renal profile
- Blood pressure
- Dialysis profile
- Thoracic radiographs
- NT-proBNP
- Troponin I
- Other tests

B6

Mitral inflow:

- Summated
- Normal
- Delayed relaxation
- Pseudonormal
- Restrictive

B6

Assessment and recommendations: Stable systolic dysfunction with similar LV function compared to previous exam. Recommend continue Taurine supplementation and current diet. Echocardiogram should be repeated in 3 months or sooner in case patient develops clinical signs consistent with worsening of the disease.

EPSS

B6

cm

M-Mode Normalized

IVSdN

(0.290 - 0.520) !

LVIDdN

(1.350 - 1.730) !

LVPWdN

(0.330 - 0.530)

IVSsN

(0.430 - 0.710) !

LVIDsN

(0.790 - 1.140) !

LVPWsN

(0.530 - 0.780)

B6

2D

SA LA

cm

Ao Diam

cm

SA LA / Ao Diam

IVSd

cm

LVIDd

cm

LVPWd

cm

EDV(Teich)

ml

IVSs

cm

LVIDs

cm

LVPWs

cm

ESV(Teich)

ml

EF(Teich)

%

%S

%

SV(Teich)

ml

B6

Doppler

MV E Vel

m/s

MV DecT

ms

MV Dec Slope

m/s

MV A Vel

m/s

MV E/A Ratio

E'

m/s

E/E'

A'

m/s

S'

m/s

IVRT

ms

AV Vmax

m/s

AV maxPG

mmHg

PV Vmax

m/s

PV maxPG

mmHg

TR Vmax

m/s

TR maxPG

mmHg

B6

Discharge Instructions

Patient

Name: B6

Species: Canine

Gold Male (Neutered) Golden Retriever

Birthdate: B6

Owner

Name: B6

Address: B6

Patient ID: B6

Attending Cardiologist:

Inho E. Bush DVM, MS, DACVIM (Cardiology), DACVECC

B6

Cardiology Resident:

B6

Cardiology Technician:

B6

Student: B6 V20

Admit Date: 5/1/2019 12:00:53 PM

Discharge Date: 5/1/2019

Diagnoses: Decreased contractile function and mildly enlarged heart.

Clinical Findings:

Thank you for bringing B6 in today for his recheck echocardiogram. You report that B6 is doing well at home and has not had any coughing or exercise intolerance. On physical exam there were no abnormalities while listening to his heart, and he had nice strong pulses.

Today on echocardiogram (ultrasound of the heart), B6 heart looks similar to how it did previously. His heart is has decreased contractile function and is mildly enlarged which is abnormal for a dog of his age. B6 does not require any additional medications at this time, however, we recommend continuing him on his taurine supplement and we will continue to monitor his heart closely in the future.

Monitoring at Home:

B6 is very stable today and is not close to heart failure. However, please monitor for him for any signs of weakness or collapse, a reduction in appetite, cough, or distension of the belly. If you notice any abnormalities, we would like to see him for a recheck exam.

If you ever have any concerns, please call or have B6 evaluated by a veterinarian. Our emergency clinic is open 24 hours a day.

Diet Suggestions:

Please continue feeding **B6** the Purina Pro Plan diet.

Exercise Recommendations: **B6** may continue his normal activity and exercise regime

Recommended Medications:

1. Taurine Supplement - Give 1000mg by mouth every 12 hours.

(brands we recommend include TwinLab, Swanson, NOW and GNC brands)

Taurine is an amino acid that is shown to be necessary for appropriate heart health. Supplementing Taurine, in some cases, has lead to reduction in heart enlargement and an increase in heart health in dogs with DCM.

Recheck Visits: We would like to see **B6** back for a recheck echocardiogram in 2-3 months. **B6** will call you to schedule this appointment.

Thank you for entrusting us with **B6** care- he is such a sweet boy! Please contact our Cardiology liaison at (508)-887-4696 or email us at cardiovet@tufts.edu for scheduling and non-emergent questions or concerns.

Please visit our HeartSmart website for more information

<http://vet.tufts.edu/heartsmart/>

Prescription Refill Disclaimer:

For the safety and well-being of our patients, your pet must have had an examination by one of our veterinarians within the past year in order to obtain prescription medications.

Ordering Food:

Please check with your primary veterinarian to purchase the recommended diet(s). If you wish to purchase your food from us, please call 7-10 days in advance (508-887-4629) to ensure the food is in stock. Alternatively, veterinary diets can be ordered from online retailers with a prescription/veterinary approval.

Clinical Trials:

Clinical trials are studies in which our veterinary doctors work with you and your pet to investigate a specific disease process or a promising new test or treatment. Please see our website: vet.tufts.edu/evang/clinical-trials

Case: **B6**

OWNS: **B6**

Discharge Instructions

Cummings Veterinary Medical Center

AT TUFTS UNIVERSITY

Cardiology Liaison: 508-887-4696

B6

Patient ID: B6

B6 Canine

B6 Years Old Male (Neutered) Golden Retriever
Gold

Cardiology Appointment Report

Date: 5/1/2019

Attending Cardiologist:

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

Cardiology Resident:

B6

Cardiology Technician:

B6

Student: B6, V20; B6 V20

Presenting Complaint: recheck - DCM study; doing well at home, active, no coughing

Concurrent Diseases:

none

General Medical History:

Last echo performed 1/19/19 - decreased contractile function, no intervention needed at this time.
Suspect diet-associated DCM

Diet and Supplements:

Taurine 1000mg BID

Cardiovascular History:

Prior CHF diagnosis? n

Prior heart murmur? n

Prior ATE? n

Prior arrhythmia? n

Monitoring respiratory rate and effort at home? n

Cough? very rarely - o cannot remember the last time he coughed

Shortness of breath or difficulty breathing? n

Syncope or collapse? n

Sudden onset lameness? n

Exercise intolerance? n

Current Medications Pertinent to CV System:

None

Cardiac Physical Examination:

B6

Muscle condition:

- Normal
- Mild muscle loss
- Moderate cachexia
- Marked cachexia

Cardiovascular Physical Exam:

Murmur Grade:

- None
- I/VI
- II/VI
- III/VI
- IV/VI
- V/VI
- VI/VI

Murmur location/description:

Jugular vein:

- Bottom 1/3 of the neck
- Middle 1/3 of the neck
- 1/2 way up the neck
- Top 2/3 of the neck

Arterial pulses:

- Weak
- Fair
- Good
- Strong
- Bounding
- Pulse deficits
- Pulsus paradoxus
- Other:

Arrhythmia:

- None
- Sinus arrhythmia
- Premature beats
- Bradycardia
- Tachycardia

Gallop:

- Yes
- No
- Intermittent
- Pronounced
- Other:

Pulmonary assessments:

- Eupneic
- Mild dyspnea
- Marked dyspnea
- Normal BV sounds
- Pulmonary crackles
- Wheezes
- Upper airway stridor

Abdominal exam:

- Normal
- Hepatomegaly
- Mild ascites
- Marked ascites

Abdominal distension

Problems:

DCM with mildly decreased contractile function

Differential Diagnoses:

Diet-associated DCM vs primary DCM

Diagnostic plan:

- | | |
|---|---|
| <input checked="" type="checkbox"/> Echocardiogram | <input type="checkbox"/> Dialysis profile |
| <input checked="" type="checkbox"/> Chemistry profile | <input type="checkbox"/> Thoracic radiographs |
| <input checked="" type="checkbox"/> ECG | <input checked="" type="checkbox"/> NT-proBNP |
| <input type="checkbox"/> Renal profile | <input type="checkbox"/> Troponin I |
| <input type="checkbox"/> Blood pressure | <input type="checkbox"/> Other tests: |

B6

Mitral inflow:

- | | |
|---|---------------------------------------|
| <input type="checkbox"/> Summated | <input type="checkbox"/> Pseudonormal |
| <input checked="" type="checkbox"/> Normal | <input type="checkbox"/> Restrictive |
| <input type="checkbox"/> Delayed relaxation | |

ECG findings:

B6

Assessment and recommendations:

Findings consistent with stable mild LV dilation and systolic dysfunction with similar LV function compared to previous exam. Recommend continue Taurine supplementation and current diet. Echocardiogram should be repeated in 3 months or sooner in case patient develops clinical signs consistent with worsening of the disease.

Final Diagnosis:

- Decreased contractile function - r/o mild DCM vs. diet induced cardiomyopathy.

Heart Failure Classification Score:

ISACHC Classification:

- | | |
|--|-------------------------------|
| <input type="checkbox"/> Ia | <input type="checkbox"/> IIIa |
| <input checked="" type="checkbox"/> Ib | <input type="checkbox"/> IIIb |
| <input type="checkbox"/> II | |

ACVIM Classification:

- | | |
|----------------------------|----------------------------|
| <input type="checkbox"/> A | <input type="checkbox"/> C |
|----------------------------|----------------------------|

■ B1
■ B2

■ D

M-Mode

IVSd

LVIDd

LVPWd

IVSs

LVIDs

LVPWs

EDV(Teich)

ESV(Teich)

EF(Teich)

%FS

SV(Teich)

LV:LA:LA

Ao Diam

LA Diam

LA/Ao

TAPSE

EPSS

B6

cm
cm
cm
cm
cm
ml
ml
%
%
ml
cm
cm
cm
cm
cm

M-Mode Normalized

IVSdN

LVIDdN

LVPWdN

IVSsN

LVIDsN

LVPWsN

B6

(0.290 - 0.520)
(1.350 - 1.730) !
(0.330 - 0.530)
(0.430 - 0.710)
(0.790 - 1.140) !
(0.530 - 0.780)

2D

SA LA

Ao Diam

SA LA / Ao Diam

IVSd

LVIDd

LVPWd

EDV(Teich)

IVSs

LVIDs

LVPWs

ESV(Teich)

EF(Teich)

%FS

SV(Teich)

LV Major

LV Minor

B6

cm
cm
cm
cm
ml
cm
cm
cm
ml
%
%
ml
cm
cm

Sphericity Index
LVEDV A4C
LVEDV MOD A4C
LVLs A4C
LVESV MOD A4C
LVEF MOD A4C
SV MOD A4C

B6

cm
ml
cm
ml
%
ml

Doppler
MR Vmax
MR maxPG
MV E Vel
MV DecT
MV Dec Slope
MV A Vel
MV E/A Ratio
E'
E/E'
A'
S'
IVRT
AV Vmax
AV maxPG
PV Vmax
PV maxPG
TR Vmax
TR maxPG

B6

m/s
mmHg
m/s
ms
m/s
m/s

m/s

m/s
m/s
ms
m/s
mmHg
m/s
mmHg
m/s
mmHg

Client:

B6

Address:

Home Phone:
Work Phone:
Cell Phone:

B6

Medical Record for **B6**

Patient:

B6

Breed: English Cocker Spaniel

DOB:

B6

Species: Canine

Sex: Male

(Neutered)

Referring Information

B6

Client:

B6

Patient:

Initial Complaint:

B6

SOAP Text

B6

11:31AM

B6

Disposition/Recommendations

Client:
Patient:

B6

Client: **B6**
Patient:

Cummings
Veterinary Medical Center
AT TUFTS UNIVERSITY

Foster Hospital for Small Animals

55 Willard Street
North Grafton, MA 01536
(508) 839-5395

Client: **B6**
Veterinarian:
Patient ID: **B6**
Visit ID:

Patient:	B6
Species:	Canine
Breed:	English Cocker Spaniel
Sex:	Male (Neutered)
Age:	B6 Years Old

Lab Results Report

Phenobarbital	B6	11:31:00 AM	Accession ID:	B6
Test	Results	Reference Range	Units	
PHENOBARB	B6	10 - 40	ug/mL	



3/19

B6

Printed Monday, February 25, 2019

Client: **B6**
Patient: **B6**

IDEXX BNP - 1/23/2019

IDEXX Reference Laboratories

Client: **B6** Patient: **B6**

Client: **B6**
Patient: **B6**
Species: CANINE
Breed: COCKER_SPANIEL
Gender: MALE
Age: 5Y

Date: **B6**
Requisition #: **B6**
Accession #: **B6**
Ordered by: **B6**

IDEXX VetConnect 1-888-433-9967

TUFTS UNIVERSITY
200 WESTBORO RD
NORTH GRAFTON, Massachusetts 01536
508-339-5395

Account: **B6**

CARDIOPET proBNP - CANINE

Test	Result	Reference Range	Unit	Normal	High
CARDIOPET proBNP - CANINE	B6	0-980 pmol/L	HIGH	B6	

Comments

1
B6

Please note: complete interpretive comments for all concentrations of cardiopet proBNP are available in the online directory of services. Serum specimens received at room temperature may have decreased NT-proBNP concentrations.

Client:
Patient:

B6

Discharge Checklist for Surgery

B6

DISCHARGE CHECKLIST FOR SURGERY

Patient's Full Name

B6

Case #

B6

Owner's Town

B6

Sx performed

B6

Location of patient: *Dwivedi*

Date of surgery

B6

Dr. of record:

B6

Date of discharge

- Pet is clean and dry
 - Catheter is removed and green bandage placed
 - Green bandage removed OR in rare instances owner instructed to remove
 - Biogard/Tegaderm is removed
 - Urinary catheter AND stay sutures are removed
 - Telemetry pads are removed
 - Orthopedic bandage removed, if applicable, otherwise instructions given to owner for bandage care.
 - d/c meds given to owner with instructions
 - owner informed when to start medications
 - owners meds returned
 - owner informed last time pet ate
 - collar/leash/personal belongings returned
 - e-collar given to owner, if necessary
 - recheck appointments not needed
- Or: Suture removal on _____
- Recheck x-rays on *in 6⁸ wks 3/26 10:00*
- bandage change on _____

This form MUST be placed on Leslie's desk after discharge. Thank you!

Date:

B6

Time: *5*

Student's name

B6

Client: **B6**
Patient:

Taurine: **B6**

Cummings School of Veterinary Medicine
Clinical Pathology Laboratory
200 Westboro Road
North Grafton, MA 01536

Name/DOB: **B6** Sex: CM Provider: **B6**
Patient ID: 343384 Age: 5 Order Location: V320559: Investigation into
Phone number: Species: Canine Sample ID: 1901220112
Collection Date: **B6** 2:37 PM Breed: English Cocker Spaniel
Approval date: 1/31/2019 7:55 AM

TEST NAME	IN RANGE	RESULT	OUT OF RANGE	RANGE	UNITS	REFERENCE RANGE
Taurine Panel						B6
Plasma Taurine		B6		* []	nmol/mL	60-120
B6 2:51 PM		>40 nmol/mL=no risk for taurine deficiency				
Whole Blood Taurine		B6		[*]	nmol/mL	200-350
B6 2:51 PM		>200 nmol/mL=no risk for taurine deficiency				

Sample ID: 1901220112/1
END OF REPORT (Final)

Reviewed by: _____

Client: **B6**
Patient:

RDVM 2/2/19

B6

Saturday, February 02, 2019

Dr. **B6**
Tufts Cummings Vet Medical Center
55 Willard St
North Grafton, MA 01536
FAX: (508) 639-1951

Re: **B6**
Spaniel, English Cocker, Neutered Male, 5 Yrs. 2 Mos.
B6

Dear Dr. **B6**

B6

B6

B6

Sincerely,
B6

Client:
Patient:

B6

RDVM 2/2/19

Client:
Patient:

B6

Amino Acid Labs Taurine Panel B6

Amino Acid Laboratory Sample Submission Form

Amino Acid Laboratory, 1089 Veterinary Medicine Drive, Davis, Ca 95616
Telephone: 530-752-5058, Fax: 530-752-4698
Email: ucd.aminoacid.lab@ucdavis.edu
www.vetmed.ucdavis.edu/labs/amino-acid-laboratory

B6

B6

2:37 PM
SHIP w ICE PACKS, TAURINE
PANEL
Lithium Heparin

B6

Veterinarian Contact: Dr. **B6**

Clinic/Company Name: Tufts Cummings School of Vet. Med. - Clinical Pathology Laboratory

Address: 200 Westboro Road, North Grafton, MA 018369

Email: Clinpath@tufts.edu cardiovet@tufts.edu

Telephone: 508-887-4669 Fax: 508-839-7938

Billing Contact: **B6** Email: **B6**

Billing Contact Phone: **B6** Tax ID: _____

Patient Name: **B6** Species: Canine

Breed: Cocker Owner's Name: **B6**

Current Diet: Acana

Sample type: Plasma Whole Blood Urine Food Other _____

Test: Taurine Complete Amino Acids Other: _____

Taurine Results (lab use only)

Plasma: **B6** Whole Blood: **B6** Urine: _____ Food: _____

	Plasma (nMol/ml)		Whole Blood (nMol/ml)	
	Normal Range	No known risk for deficiency	Normal Range	No known risk for deficiency
Cat	80-120	>40	300-600	>200
Dog	60-120	>40	200-350	>150

* Please note with the recent increase in the number of dogs screened for taurine deficiency, we are seeing dogs with values within the reference ranges (or above the "no known risk for deficiency range") yet are still exhibiting signs of cardiac disease. Veterinarians are welcome to contact our laboratory for assistance in evaluating your patient's results.

Client:
Patient:

B6

Amino Acid Labs Taurine Panel

B6

UNIVERSITY OF CALIFORNIA, DAVIS

BERKELEY • DAVIS • IRVINE • LOS ANGELES • MERCED • RIVERSIDE • SAN DIEGO • SAN FRANCISCO



SANTA BARBARA • SANTA CRUZ

STERN CARDIAC GENETICS LABORATORY
JOSHUA A. STERN, DVM, PHD, DACVIM (CARDIOLOGY)
sterngenetics@ucdavis.edu; August 9, 2018

FREQUENTLY REQUESTED INFORMATION REGARDING TAURINE & DILATED CARDIOMYOPATHY IN GOLDEN RETRIEVERS

Taurine reference ranges for Golden Retrievers: The Stern Lab suggests that the following clinical reference ranges be used for Golden Retrievers and be considered for other known taurine-sensitive breeds such as Newfoundlands or American Cocker Spaniels. This is primarily based on 3 observations:

1. Golden Retrievers with marginal taurine levels (defined below) have been diagnosed with dilated cardiomyopathy and have documented disease reversal after taurine supplementation and diet change.
2. Previously published work documents taurine sensitivity in Golden Retrievers.
3. The most recently published reference on normal blood taurine values shows higher levels than previously reported.

- o Normal whole blood taurine: >250nmol/mL
- o Normal plasma taurine: >70nmol/mL
- o Marginal whole blood taurine: 200-250nmol/mL
- o Marginal plasma taurine: 60-70nmol/mL
- o Low whole Blood taurine: <200nmol/mL
- o Low plasma taurine: <60nmol/mL

References:

- Kramer GA, Kittleson MD, Fox PR, Lewis J, Pion PD. Plasma taurine concentrations with normal dogs and in dogs with heart disease. *J Vet Intern Med* 1995;9:253-258.
- Belanger MC, Ouellet M, Queney G, Moreau M. Taurine-deficient dilated cardiomyopathy in a family of golden retrievers. *J Am Anim Hosp Assoc* 2005;41:284-291.
- Kittleson MD, Keene B, Pion PD, Loyer CG, MUST Study Investigators. Results of the multicenter spaniel trial (MUST): taurine- and carnitine-responsive dilated cardiomyopathy in American Cocker Spaniels with decreased plasma taurine concentration. *J Vet Intern Med* 1197;11:204-211.
- Backus RC, Choan G, Pion PD, Good KL, Rogers QR, Fascetti AJ. Taurine deficiency in Newfoundlands fed commercially available complete and balanced diets. *J Am Vet Med Assoc* 2003;223:1130-1136.
- Fascetti AJ, Reed JR, Rogers QR, Backus RC. Taurine deficiency in dogs with dilated cardiomyopathy: 12 cases (1997-2001). *J Am Vet Med Assoc* 2003;223:1137-1141.
- Freeman LM, Michel KE, Brown DJ, Kaplan PM, Stamoulis ME, Rosenthal SL, Keene BW, Rush JE. Idiopathic dilated cardiomyopathy in Dalmatians: nine cases (1990-1995). *J Am Vet Med Assoc* 1996;209:1592-1596.
- Delaney SJ, Kass PH, Rogers QR, Fascetti AJ. Plasma and whole blood taurine in normal dogs of varying size fed commercially prepared food. *J Anim Physiol a Anim Nutr* 2003;87:236-244.

Plasma vs. whole blood taurine testing:

If at all possible, we recommend that paired (plasma and whole blood) taurine samples be submitted for analysis. A low value on either or both tests is clinically relevant. If your dog is diagnosed with DCM, submitting paired taurine samples (plasma and whole blood) is imperative. We recommend that the UC Davis Amino Acid Laboratory be used for taurine testing, as this is where the literature utilized for our reference ranges was generated. <https://www.vetmed.ucdavis.edu/labs/amino-acid-laboratory>. If a single test is submitted the Stern Lab recommends that whole blood be submitted preferentially. This is due to the false elevation of taurine levels that is possible in plasma samples due to sample handling issues. This is an area of some debate between clinicians and conflicting information on preference for plasma vs. whole blood exists. This underscores the value of paired sampling.

Page 1 of 3

Client:
Patient:

B6

Amino Acid Labs Taurine Panel **B6**

Clinical Recommendations for Golden Retrievers based on taurine levels:

If taurine levels test <200nmol/mL in whole blood or <60nmol/mL in plasma

- An echocardiogram by a board-certified veterinary cardiologist is indicated
- After echocardiogram has been completed, a diet change is recommended.
 - If DCM is diagnosed, this patient may need a variety of cardiac medications that would be prescribed by the attending cardiologist.
 - If DCM is diagnosed, prescribed supplementation with oral taurine and l-carnitine is recommended.
 - Reevaluation of taurine levels is warranted after three months of diet change and supplementation.
 - Cardiology reevaluation schedules will be recommended by the attending clinician pending echocardiographic findings.
 - Many Golden Retrievers with taurine-deficient DCM in our study showed slow and steady improvement over a period of 6-12 months.

If taurine levels test 200 - 250nmol/mL in whole blood or 60-70nmol/mL in plasma

- An echocardiogram by a board-certified cardiologist is recommended.
- After echocardiogram has been completed, a diet change is recommended.
- We recognize that many dogs in this category may have normal echocardiograms and thus the value of screening should be carefully considered. If the dog is eating a diet that falls within the FDA warning or shares features with the diets identified in our study (see diets of concern section below), we encourage echocardiographic screening with greater enthusiasm.
- If an echocardiogram is not performed, a diet change is still recommended and a taurine level reevaluation after three months on the new diet should be considered.
- If DCM is diagnosed, this patient may need a variety of cardiac medications that would be prescribed by the attending cardiologist.
 - If DCM is diagnosed, prescribed supplementation with oral taurine and l-carnitine is recommended.
 - Reevaluation of taurine levels is warranted after three months of diet change and supplementation.
 - Cardiology reevaluation schedules will be recommended by the attending clinician pending echocardiographic findings.
 - Many Golden Retrievers with taurine-deficient DCM in our study showed slow and steady improvement over a period of 6-12 months.

If taurine levels test >250nmol/mL in whole blood or >70nmol/mL in plasma

- Diet change is recommended if you are feeding a diet that falls within the FDA warning or shares features with the diets identified in our study (see diets of concern section below)
- If your pet shows any signs of cardiac disease (trouble breathing, exercise intolerance, fainting/collapse, coughing) we recommend your veterinarian evaluate your pet.

Diets of Concern & Choosing a diet

The FDA alert called attention to several dietary ingredients that should be considered when evaluating whether your pet is at risk (for example legumes like peas and lentils, white or sweet potatoes). These findings were largely recapitulated in our current study of Golden Retrievers with low taurine levels and DCM. Our lab considers these ingredients to be of greatest concern when present within the first 5 listed ingredients on the dog food bag. Additionally, we noted a high percent of diets in our study were using protein sources other than chicken or beef and labeled as grain-free.

Points to consider when making a diet change:

- Choose a diet that does not contain the concerning components listed above
- Choose a diet that meets the WSAVA Global Nutrition Assessment Guidelines published as consensus by veterinary nutritionists from around the world:
 - <https://www.wsava.org/WSAVA/media/Arpita-and-Emma-editorial/Selecting-the-Best-Food-for-your-Pet.pdf>
- FDA alert found here:
 - <https://www.fda.gov/AnimalVeterinary/NewsEvents/CVMUpdates/ucm613305.htm>

Choosing a taurine or l-carnitine supplement:

Selecting supplements should be performed based upon those that match their stated contents and are readily available for absorption. Luckily a previous publication tested multiple taurine and l-carnitine supplements. Based upon this publication our laboratory recommends the following supplements as those meeting our quality criteria. (Bragg et al. 2009 J Am Vet Med Assoc; 234(2))

Tested taurine supplements that test within 5% of stated contents and if applicable disintegrated within 30 minutes

- Mega taurine caps by Twinlab (1000 capsule)
- Taurine by Swanson Health Products (500mg capsule)
- Taurine by NOW foods (500mg capsule)
- Taurine 500 by GNC (500mg tablet)

Tested L-carnitine supplements that test within 5% of stated contents and if applicable disintegrated within 30 minutes

- L-carnitine 500 by Jarrow Formulas (500mg capsule)
- L-carnitine caps by Country Life (500mg capsule)
- Maxi L-carnitine by Solgar Vitamin and Herb (500mg tablet)
- L-carnitine by Puritan's Pride (500mg tablet)

The Stern lab does not recommend the empirical supplementation of taurine or l-carnitine to dogs without evidence of DCM and/or significant deficiency. If DCM is diagnosed we typically recommend dogs over 50lbs receive 1000mg of taurine every 12hrs and dogs under 50lbs receive 500mg of taurine every 12hours. We recommend L-carnitine at a dose of ~50mg/kg orally with food every 8hrs. Your veterinary cardiologist or family veterinarian should be consulted for prescribing the best dose for your dog.

Reporting to the FDA:

Understanding the basis of this condition requires a great deal of research and investigation. Clients with affected dogs can contribute their data to help propel this research forward. You can report cases of taurine deficiency, dilated cardiomyopathy, sudden cardiac death, or any combination of these events to the FDA by following the information found here:
<https://www.fda.gov/animalveterinary/safetyhealth/reportaproblem/ucm182403.htm>

Additional questions or comments:
sterngenetics@ucdavis.edu
This document last updated: Aug. 20, 2018

Client:
Patient:

B6

Amino Acid Labs Taurine Panel B6



CARDIOLOGY SERVICE UPDATES: DOG FOOD & DILATED CARDIOMYOPATHY

The Cardiology Service has developed this document in response to the alerts from the FDA. These alerts identify an associated risk for some grain-free diets containing certain ingredients (legumes like peas, pea components, lentils; white potatoes, sweet potatoes) and a diagnosis of dilated cardiomyopathy (DCM). The links provided throughout this document can be copied and pasted to obtain additional information.

FDA Alerts found here:

<https://www.fda.gov/AnimalVeterinary/NewsEvents/CVMUpdates/ucm613305.htm>

<https://www.fda.gov/AnimalVeterinary/ResourcesforYou/AnimalHealthLiteracy/ucm616279.htm>

What is Dilated Cardiomyopathy (DCM)?

DCM is a heart muscle disorder that results in a weak pump function and heart chamber enlargement. In the early stages of this disease pets may appear totally healthy with no apparent clinical signs. Later in the course of this disease, dogs may have a heart murmur, an arrhythmia (irregular heart beat), collapse episodes, weakness or tiredness with exercise, and even trouble breathing from congestive heart failure. While there are some breeds of dogs (like Dobermans) that have a genetic predisposition to development of DCM, there are also nutritional factors that may result in this disease.

What should I do?

If you are feeding a diet of concern based upon the FDA alert we recommend that you consult with your veterinarian or veterinary cardiologist. We provide 4 general points for guidance below:

1. An initial step is to **consider whether you are willing or interested in performing additional testing** to assess whether your pet is affected with DCM. If you believe your dog is at risk, showing any of the aforementioned clinical signs or would prefer to simply rule out any heart disease, we recommend that you first have your pet's taurine levels tested (both whole blood and plasma levels) as well as seek an echocardiogram by a board-certified veterinary cardiologist. Low taurine levels are associated with development of DCM in dogs and are sometimes a component of this current issue.

Information on taurine testing can be found here: <https://www.vetmed.ucdavis.edu/labs/amino-acid-laboratory>

2. At this time, **diet change is recommended when possible** and should be considered regardless of the results obtained from any testing. You can consult with your veterinarian in selecting a new diet that avoids the ingredients of concern listed by the FDA. When selecting this diet, we recommend that you choose a diet that is manufactured with rigorous quality control measures and research behind the formulation. A way to ensure that your diet meets these recommendations is to follow the following guidelines that were generated by a large number of the world's leading experts in veterinary nutrition:

Food selection guidelines found here:

<https://www.wsava.org/WSAVA/media/Arpita-and-Emma-editorial/Selecting-the-Best-Food-for-your-Pet.pdf>

3. If your pet is identified through testing to have a low blood taurine level or evidence of DCM by echocardiogram, we urge you to **report this information to the FDA**.

FDA reporting guidelines found here: <https://www.fda.gov/AnimalVeterinary/SafetyHealth/ReportaProblem/ucm182403.htm>

4. **Work with your veterinarian(s)** to determine the best course of action and medical treatments if indicated. In the case of a DCM diagnosis, diet change alone may not be sufficient and additional medications may be prescribed.

Please continue to monitor the FDA website and the UC Davis School of Veterinary Medicine Newsfeeds for updates and recommendations regarding this issue.

Client:
Patient:

B6

Diet history 2/13/19

2.2CARDIOLOGY DIET HISTORY FORM
Please answer the following questions about your pet

Pet's name: **B6** Owner's name: **B6** Today's date: 2/13/2019

1. How would you assess your pet's appetite? (mark the point on the line below that best represents your pet's appetite)

Example: **Poor** _____ **Excellent**
Poor _____ | _____ **Excellent**

2. Have you noticed a change in your pet's appetite over the last 1-2 weeks? (check all that apply)
 Eats about the same amount as usual Eats less than usual Eats more than usual
 Seems to prefer different foods than usual Other _____

3. Over the last few weeks, has your pet (check one)
 Lost weight Gained weight Stayed about the same weight Don't know

1. Please list below ALL pet foods, people food, treats, snack, dental chews, rawhides, and any other food item that your pet currently eats and that you have fed in the last 2 years.

Please provide enough detail that we could go to the store and buy the exact same food - examples are shown in the table

Food (include specific product and flavor)	Form	Amount	How often?	Dates fed
Nutro Grain Free Chicken, Lentil, & Sweet Potato Adult	dry	1 1/2 cup	2x/day	Jan 2016-present
85% lean hamburger	microwaved	3 oz	1x/week	June -Aug 2016
Pupperoni original beef flavor	treat	1/2	1x/day	Sept 2016-present
Rawhide	treat	6 inch twist	1x/week	Dec 2018-present
Acana Lamb & Apple	dry	3/4 cup	daily	2013 - JAN 2019
Carrot slices, broccoli crown pieces	treat	1 - 2 pieces	3x/week	
Raw beef rib bones	treat	1 - 2	weekly	

*Any additional diet information can be listed on the back of this sheet

2. Do you give any dietary supplements to your pet (for example: vitamins, glucosamine, fatty acids, or any other supplements)? Yes No If yes, please list which ones and give brands and amounts:

Brand/Concentration Amount per day

Taurine Yes No _____

Carnitine Yes No _____

Antioxidants Yes No _____

Multivitamin Yes No _____

Fish oil Yes No _____

Coenzyme Q10 Yes No _____

Other (please list):
Example: Vitamin C 500 mg tablets - 1 per day Nature's Bounty

Client:
Patient:

B6

Diet history 2/13/19

3. How do you administer pills to your pet?

- I do not give any medications
- I put them directly in my pet's mouth without food
- I put them in my pet's dog/cat food
- I put them in a Pill Pocket or similar product
- I put them in foods (list foods): Mostly banana slices or pure peanut butter.

Client: **B6**
Patient:

Vitals Results

B6

3:10:53 PM

Nursing note

B6

4:15:34 PM

Nursing note

Client:
Patient:

B6

ECG from Cardio

B6

B6

2:59:42 PM

Tufts University
Tufts Cummings School of Vet Med
Cardiology

B6

Client:
Patient:

B6

ECG from Cardio

B6

B6

3:00:04 PM

Tufts University
Tufts Cummings School of Vet Med
Cardiology

B6

Patient History

B6	11:28 AM	UserForm	B6
	11:31 AM	Purchase	
	11:36 AM	UserForm	
	11:41 AM	UserForm	
	01:46 PM	Treatment	
	01:47 PM	Purchase	
	02:08 PM	Prescription	
	02:10 PM	Prescription	
	02:13 PM	Prescription	
	02:28 PM	Deleted Reason	
	03:10 PM	Treatment	
	03:10 PM	Purchase	
	03:10 PM	Vitals	
	04:15 PM	Treatment	
	04:15 PM	Vitals	
	04:27 PM	Purchase	
	04:27 PM	Deleted Reason	
	04:27 PM	Deleted Reason	
	05:24 PM	Purchase	
	05:24 PM	Purchase	
05:24 PM	Purchase		
05:24 PM	Purchase		
06:02 PM	Purchase		
04:45 PM	Email		
09:35 AM	Purchase		
11:08 AM	Purchase		

From: B6
To: Darcy Adin
CC: Jones, Jennifer L; Reimschuessel, Renate
Sent: 7/10/2017 2:49:30 PM
Subject: Pet food concern

Hi Dr. Adin,

As we discussed this morning, one avenue to explore your concern about pet food contamination (toxin or infectious disease) is the FDA program. Here is a website that highlights how you can report a complaint.

<https://www.fda.gov/AnimalVeterinary/SafetyHealth/ReportaProblem/ucm182403.htm>

We work with the FDA Vet-LIRN program on diagnostics from the pet side, but they agree to include the case in the program and would coordinate with us (or another laboratory). I have copied Dr. Jones and Dr. Reimschuessel here - they can help let us know the process to see if these cases are eligible.

Regards,

B6

From: Darcy Adin <dbadin@ncsu.edu>
To: Jones, Jennifer L
CC: [REDACTED] **B6**
Sent: 7/11/2017 1:57:59 PM
Subject: Re: Pet food concern

Great! I will give you a call during one of those times depending on our clinic cases - thank you!

On Tue, Jul 11, 2017 at 7:33 AM, Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov> wrote:

Hi Darcy,

I can chat today from 11-1pm or or 2-3pm.

Jen

Jennifer Jones, DVM

Veterinary Medical Officer



From: Darcy Adin [<mailto:dbadin@ncsu.edu>]
Sent: Monday, July 10, 2017 6:47 PM
To: Jones, Jennifer L
Cc: Reimschuessel, Renate; [REDACTED] **B6**

Subject: Re: Pet food concern

Thank you Dr. Jones! I'm sorry I am just reading email now so I have missed you! I'd love to chat with you about the cases. I am on clinics this week but can try to call you if you have another block of time tomorrow (or later this week). My number is [REDACTED] **B6** or I can be paged from [REDACTED] **B6**

Thank you!

Darcy

On Jul 10, 2017, at 1:05 PM, Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov> wrote:

Hello Dr. Adin,

Please let me know if you'd like to chat about the case this afternoon. I'll be in the office from 1-3pm (tel: [240-402-5421](tel:240-402-5421)).

If you suspect an animal's illness may be due to the food, you can submit a report at www.safetyreporting.hhs.gov

Please mention Vet-LIRN encouraged you to submit a report. Please email me the ICSR number (similar to a confirmation number), so I can find the report on my end.

Thank you,

Jennifer

Jennifer Jones, DVM

Veterinary Medical Officer

<image001.png> <image004.png>

From: Darcy Adin [<mailto:dbadin@ncsu.edu>]

Sent: Monday, July 10, 2017 11:31 AM

To: **B6**

Cc: Jones, Jennifer L; Reimschuessel, Renate

Subject: Re: Pet food concern

Thank you! I will work on this submission later today. I appreciate your help!

On Mon, Jul 10, 2017 at 10:49 AM, **B6** wrote:

Hi Dr. Adin,

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Regards,

B6

B6

--

Darcy B. Adin, DVM, DACVIM (Cardiology)

Clinical Assistant Professor of Cardiology

North Carolina State University

NC State Veterinary Hospital

1060 William Moore Drive

Raleigh, NC 27607

919-513-6032

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Darcy B. Adin, DVM, DACVIM (Cardiology)

Clinical Assistant Professor of Cardiology

North Carolina State University

NC State Veterinary Hospital

1060 William Moore Drive

Raleigh, NC 27607

919-513-6032

From: Darcy Adin <dbadin@ncsu.edu>
To: Jones, Jennifer L
Sent: 7/11/2017 9:44:00 PM
Subject: Re: Pet food concern
Attachments:

B6

Hi Jennifer,

I've submitted the reports through the portal - one for each dog. The numbers are:

2023230 (I) for **B6**
2023228 (I) for **B6**

I've also attached the visit summaries for **B6** and **B6** as well as **B6** necropsy report. I have the biological samples stored at -80 and also have food samples.

Thank you so much for your help and I'll look forward to hearing from you or someone on your team!

Take care

Darcy

On Tue, Jul 11, 2017 at 7:33 AM, Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov> wrote:

Hi Darcy,

I can chat today from 11-1pm or or 2-3pm.

Jen

Jennifer Jones, DVM

Veterinary Medical Officer



From: Darcy Adin [mailto:dbadin@ncsu.edu]
Sent: Monday, July 10, 2017 6:47 PM
To: Jones, Jennifer L
Cc: Reimschuessel, Renate; **B6**

Subject: Re: Pet food concern

Thank you Dr. Jones! I'm sorry I am just reading email now so I have missed you! I'd love to chat with you about the cases. I am on clinics this week but can try to call you if you have another block of time tomorrow (or

later this week). My number is [B6] or I can be paged from [B6]

Thank you!

Darcy

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Please mention Vet-LIRN encouraged you to submit a report. Please email me the ICSR number (similar to a confirmation number), so I can find the report on my end.

Thank you,

Jennifer

Jennifer Jones, DVM

Veterinary Medical Officer

<[image001.png](#)> <[image004.png](#)>

From: Darcy Adiu [<mailto:dbadin@ncsu.edu>]

Sent: Monday, July 10, 2017 11:31 AM

To: [B6]

Cc: Jones, Jennifer L; Reimschuessel, Renate

Subject: Re: Pet food concern

Thank you! I will work on this submission later today. I appreciate your help!

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Regards,

B6

B6

--

Darcy B. Adin, DVM, DACVIM (Cardiology)

Clinical Assistant Professor of Cardiology

North Carolina State University

NC State Veterinary Hospital

1060 William Moore Drive

Raleigh, NC 27607

919-513-6032

--

Darcy B. Adin, DVM, DACVIM (Cardiology)

Clinical Assistant Professor of Cardiology

North Carolina State University

NC State Veterinary Hospital

1060 William Moore Drive

Raleigh, NC 27607

919-513-6032

From: Jones, Jennifer L </o=FDA/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=Jennifer.Jonesaa8>
To: 'Darcy Adin'
CC: Ceric, Olgica
Sent: 8/22/2017 11:54:03 AM
Subject: RE: Pet food concern (800.218)

My apologies for the second email.
Which dry food (Kangaroo or Venison) was sent to us for the testing?

Jennifer Jones, DVM
Veterinary Medical Officer



From: Jones, Jennifer L
Sent: Tuesday, August 22, 2017 7:37 AM
To: 'Darcy Adin'
Cc: Ceric, Olgica
Subject: RE: Pet food concern (800.218)

Good morning Dr. Adin,
We received results of the product testing for [B5] those were negative. Please see the attached. The results for the [B5] and taurine are in progress. I'll forward along as soon as possible.
Thank you for your patience,
Jen

Jennifer Jones, DVM
Veterinary Medical Officer



From: Darcy Adin [mailto:dbadin@ncsu.edu]
Sent: Friday, August 18, 2017 10:38 AM
To: Jones, Jennifer L
Subject: Re: Pet food concern (800.218)

Hi Dr. Jones,

I'm not sure what timeline to expect so forgive me if this premature, but I wanted to check in to see if you have any information about the cases yet?

Thanks!
Darcy Adin

On Jul 28, 2017, at 9:18 AM, Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov> wrote:

This is great information to add to the case. Thank you, Darcy.

Jennifer Jones, DVM

Veterinary Medical Officer



From: Darcy Adin [mailto:dbadin@ncsu.edu]
Sent: Wednesday, July 26, 2017 9:39 PM
To: Jones, Jennifer L
Subject: Re: Pet food concern (800.218)

Hi Jennifer,

I don't know if there is anything to this but I have treated 2 other dogs in the last 2 weeks with DCM and CHF that are being fed California natural food (one kangaroo and lentil, and we are trying to find out about the other one which is in our ER now). One is mixed breed and we'll recommend testing for taurine deficiency. The other was a golden and taurine was a bit low but not super low so although we supplemented, I wasn't totally convinced it was the cause. Unfortunately she died a week later.

I don't have a sense for how widely fed this diet is but I don't see it on the top selling lists I can find by google, so seeing 4 DCM dogs recently eating this particular food is interesting to say the least. I thought this might be of interest to you as you start to look at the California natural food sample from the B6 dogs.

Thank you!
Darcy

On Jul 26, 2017, at 8:08 AM, Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov> wrote:

Thank you, Darcy. One way I've seen veterinarians handle the reimbursement for other cases is posting the amount to the patient's chart, leaving a balance of the shipping charges. In those cases, our accountant then called and paid the shipping charge balance on the account.

Jennifer Jones, DVM
Veterinary Medical Officer
<image001.png> <image002.png>

From: Darcy Adin [mailto:dbadin@ncsu.edu]
Sent: Wednesday, July 26, 2017 7:42 AM
To: Jones, Jennifer L
Cc: Ceric, Olgica
Subject: Re: Pet food concern (800.218)

Hi Dr. Jones

We included the invoice in the package. There was a fair bit of discussion here because I don't think there will be an easy way to reimburse - so probably don't worry about it!
Thank you!
Darcy

On Jul 26, 2017, at 6:32 AM, Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov> wrote:

Excellent. Thank you, Darcy. Please email or fax an invoice so we can reimburse you for the shipping.

Jennifer Jones, DVM
Veterinary Medical Officer

<image001.png> <image003.png>

From: Darcy Adin [mailto:dbadin@ncsu.edu]
Sent: Tuesday, July 25, 2017 10:36 PM
To: Jones, Jennifer L
Cc: Ceric, Olgica
Subject: Re: Pet food concern (800.218)

Thank you Dr. Jones!
It went out tonight by FedEx tonight. I'll look forward to hearing from you soon.
Take care
Darcy

On Tue, Jul 25, 2017 at 10:48 AM, Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov> wrote:

Hi Darcy,
I spoke with my colleague. If you can, please return ship the box using FedEx or your preferred carrier. You'll ship the box for overnight delivery on a Monday-Wednesday. Please ship to:

Attention: Jennifer Jones
8401 Muirkirk Rd
Laurel, MD 20708

After you return ship the box, please email or fax (301-210-4685) an invoice for the shipping charges. We can then call NCSU and reimburse with our VISA information.

Please let me know if you have questions.
Thank you again for your patience,
Jen

Jennifer Jones, DVM
Veterinary Medical Officer
<image001.png> <image005.png>

From: Darcy Adin [mailto:dbadin@ncsu.edu]
Sent: Tuesday, July 25, 2017 10:30 AM

To: Jones, Jennifer L
Cc: Ceric, Olgica
Subject: Re: Pet food concern (800.218)

thanks!

On Tue, Jul 25, 2017 at 8:45 AM, Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov> wrote:

Hi Darcy,
I'm sorry for the trouble getting the label. I'm going to reach out to my colleague to get one made for you. I'll send it via email. If that doesn't work, then we can go with FedEx.
Thank you for the update, and sorry for the trouble with the label,
Jen

Jennifer Jones, DVM
Veterinary Medical Officer
<image001.png> <image008.png>

From: Darcy Adin [mailto:dbadin@ncsu.edu]
Sent: Monday, July 24, 2017 3:31 PM
To: Jones, Jennifer L
Subject: Re: Pet food concern (800.218)

Hi Jen,

The shipping box arrived this afternoon, however, we don't see a return shipping label. Our shipping and receiving staff suggested that FedEx might be better since with UPS pick up, we can't control how much time the package may be sitting in the heat. I'm happy to send however you would recommend though!

Thank you!

Darcy

On Fri, Jul 21, 2017 at 12:47 PM, Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov> wrote:

Good afternoon Darcy,

The package will ship today and arrive Monday. UPS said they will give you a return shipping label. For some reason, we were unable to put it in the shipping box we sent to you. UPS, however, has assured us they will give you the label Monday. Please let me know if you do not get that label, because I'll need to get you one.

Thank you,

Jen

Jennifer Jones, DVM

Veterinary Medical Officer

<[image001.png](#)> <[image009.png](#)>

From: Jones, Jennifer L

Sent: Wednesday, July 19, 2017 1:04 PM

To: 'Darcy Adin'

Cc: Ceric, Olgica

Subject: RE: Pet food concern (800.218)

Excellent. Thank you, Darcy. We'll ship the kit to your office to collect the food. It will contain the return shipping label for use with the box.

The box should arrive for you by close of business Tuesday (7/25).

Jen

Jennifer Jones, DVM

Veterinary Medical Officer

<[image001.png](#)> <[image008.png](#)>

From: Darcy Adin [<mailto:dbadin@ncsu.edu>]

Sent: Tuesday, July 18, 2017 9:59 PM

To: Jones, Jennifer L

Cc: Ceric, Olgica

Subject: Re: Pet food concern (800.218)

Hi Dr. Jones,

The owner confirmed that neither dog B5 in February or chronically.

Thank you!

Darcy

On Jul 18, 2017, at 8:33 AM, Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov> wrote:

Good morning Dr. Adin,

After reviewing the complaint and medical records, we'd like to request the following:

· Please check with the owner/confirm B5 either in February 2017 or consistently) B5 injury.

Collect open bag of California Naturals food to test for [B5]

- Please email me the size/weight of the food.
- We will send you an empty box with a prepaid shipping label to send the product back to our lab.
- After we test the product, we'll send you the results to share with the owner.

After I get the size/weight of the food, I'll send the box.
Thank you for helping with the case,
Jennifer

Jennifer Jones, DVM
Veterinary Medical Officer
<image001.png> <image003.png>

From: Darcy Adin [mailto:dbadin@ncsu.edu]
Sent: Tuesday, July 11, 2017 5:44 PM
To: Jones, Jennifer L
Subject: Re: Pet food concern

Hi Jennifer,

I've submitted the reports through the portal - one for each dog. The numbers are:
2023230 (I) for [B6]
2023228 (I) for [B6]

I've also attached the visit summaries for [B6] (2) and [B6] (1) as well as [B6] necropsy report. I have the biological samples stored at -80 and also have food samples.

Thank you so much for your help and I'll look forward to hearing from you or someone on your team!
Take care
Darcy

On Tue, Jul 11, 2017 at 7:33 AM, Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov> wrote:
Hi Darcy,
I can chat today from 11-1pm or or 2-3pm.
Jen

Jennifer Jones, DVM
Veterinary Medical Officer
<image001.png> <image010.png>

From: Darcy Adin [mailto:dbadin@ncsu.edu]
Sent: Monday, July 10, 2017 6:47 PM
To: Jones, Jennifer L
Cc: Reimschuessel, Renate; [B6]

Subject: Re: Pet food concern

Thank you Dr. Jones! I'm sorry I am just reading email now so I have missed you! I'd love to chat with you about the cases. I am on clinics this week but can try to call you if you have another block of time tomorrow (or

later this week). My number is [B6] or I can be paged from [B6]

Thank you!

Darcy

On Jul 10, 2017, at 1:05 PM, Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov> wrote:

Hello Dr. Adin,

Please let me know if you'd like to chat about the case this afternoon. I'll be in the office from 1-3pm (tel: [240-402-5421](tel:240-402-5421)).

If you suspect an animal's illness may be due to the food, you can submit a report at www.safetyreporting.hhs.gov

Please mention Vet-LIRN encouraged you to submit a report. Please email me the ICSR number (similar to a confirmation number), so I can find the report on my end.

Thank you,

Jennifer

Jennifer Jones, DVM

Veterinary Medical Officer

<[image001.png](#)> <[image004.png](#)>

From: Darcy Adin [<mailto:dbadin@ncsu.edu>]

Sent: Monday, July 10, 2017 11:31 AM

To: [B6]

Cc: Jones, Jennifer L; Reimschuessel, Renate

Subject: Re: Pet food concern

Thank you! I will work on this submission later today. I appreciate your help!

On Mon, Jul 10, 2017 at 10:49 AM, [B6] wrote:

Hi Dr. Adin,

As we discussed this morning, one avenue to explore your concern about pet food contamination (toxin or infectious disease) is the FDA program. Here is a website that highlights how you can report a complaint.

<https://www.fda.gov/AnimalVeterinary/SafetyHealth/ReportaProblem/ucm182403.htm>

We work with the FDA Vet-LIRN program on diagnostics from the pet side, but they agree to include the case in the program and would coordinate with us (or another laboratory). I have copied Dr. Jones and Dr. Reimschuessel here - they can help let us know the process to see if these cases are eligible.

Regards,

[B6]

--

Darcy B. Adin, DVM, DACVIM (Cardiology)
Clinical Assistant Professor of Cardiology
North Carolina State University
NC State Veterinary Hospital
1060 William Moore Drive
Raleigh, NC 27607
919-513-6032

--

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Darcy B. Adin, DVM, DACVIM (Cardiology)
Clinical Assistant Professor of Cardiology
North Carolina State University

NC State Veterinary Hospital
1060 William Moore Drive
Raleigh, NC 27607
919-513-6032

From: Rotstein, David </O=FDA/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=DAVID.ROTSTEIN>
To: Jones, Jennifer L; Palmer, Lee Anne; Reimschuessel, Renate; Queen, Jackie L; Carey, Lauren
CC: Ceric, Olgica
Sent: 8/22/2017 12:39:27 PM
Subject: RE: 800.218-Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers-EON-323515-323519

Agreed. Thanks Jen

David Rotstein, DVM, MPVM, Dipl. ACVP
CVM Vet-LIRN Liaison
CVM OSC/DC/CERT
7519 Standish Place
240-506-6763 (BB)



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From: Jones, Jennifer L
Sent: Tuesday, August 22, 2017 8:37 AM
To: Rotstein, David; Palmer, Lee Anne; Reimschuessel, Renate; Queen, Jackie L; Carey, Lauren
Cc: Ceric, Olgica
Subject: RE: 800.218-Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers-EON-323515-323519

BLUF: **Final Conclusion:** The cause of the two dogs' DCM is unclear. The bloodwork for these dogs showed normal taurine and [B5] levels. Based on the dogs' blood taurine [B5] levels and the dry dog food test results, it is unlikely that [B5] taurine, or [B5] caused the dogs' illness.

B5

B5

Final Conclusion: The cause of the two dogs' DCM is unclear. The bloodwork for these dogs showed normal taurine and [B5] levels. Based on the dogs' blood taurine, [B5] levels and the dry dog food test results, it is unlikely that [B5] taurine, or [B5] caused the dogs' illness.

Jennifer Jones, DVM
Veterinary Medical Officer



From: Jones, Jennifer L
Sent: Monday, August 07, 2017 7:02 AM
To: Rotstein, David; Palmer, Lee Anne; Reimschuessel, Renate; Queen, Jackie L; Carey, Lauren
Cc: Ceric, Olgica
Subject: RE: 800.218-Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers-EON-323515-323519

FYI-Taurine [B5] still pending, but [B5] negative.

Jennifer Jones, DVM
Veterinary Medical Officer



From: Jones, Jennifer L
Sent: Thursday, July 27, 2017 7:25 AM
To: Rotstein, David; Palmer, Lee Anne; Reimschuessel, Renate; Queen, Jackie L; Carey, Lauren
Cc: Ceric, Olgica
Subject: RE: Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers-EON-323515-323519

We received the food and plan to test for [B5]. The vet also mentioned two items of interest:

1. She's treated 2 other dogs in last 2 weeks with DCM/CHF and being fed California Natural food. That brings us to 4 DCM dogs recently eating this food.
 - a. We can consider taurine and other types of testing?

[B5]

Thoughts from the group?

Jennifer Jones, DVM
Veterinary Medical Officer



From: Jones, Jennifer L
Sent: Tuesday, July 18, 2017 8:18 AM
To: Rotstein, David; Palmer, Lee Anne; Reimschuessel, Renate; Queen, Jackie L; Carey, Lauren
Cc: Ceric, Olgica
Subject: RE: Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers-EON-323515-323519

Ok, thanks, Dave. I'll check with the vet if seafood fed and will plan to test open product fo

B5

Jennifer Jones, DVM
Veterinary Medical Officer



From: Rotstein, David
Sent: Thursday, July 13, 2017 2:54 PM
To: Jones, Jennifer L; Palmer, Lee Anne; Reimschuessel, Renate; Queen, Jackie L; Carey, Lauren
Cc: Ceric, Olgica
Subject: RE: Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers-EON-323515-323519

I think testing is worth pursuing. Oddball question

B5

B5

This would highly unlikely, but wanted to put it out there.

David Rotstein, DVM, MPVM, Dipl.ACVP
CVM Vet-LIRN Liaison
CVM OSC/DC/CERT
7519 Standish Place
240-506-6763 (BB)

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From: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>
Date: July 13, 2017 at 2:44:24 PM EDT
To: Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>, Rotstein, David <David.Rotstein@fda.hhs.gov>, Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>, Queen, Jackie L <Jackie.Queen@fda.hhs.gov>, Carey, Lauren <Lauren.Carey@fda.hhs.gov>

Cc: Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>

Subject: RE: Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers-EON-323515-323519

We could test for [B5] in food, what does the group think? Any additional testing? Is it worth testing the [B5]

Medical Record Review:

[B6]

Presenting complaint [B6]

B6

PE [B6]

[B6]

[B6]

[B6]

B6

B6

Rads 1/31

B6

B6 cardiomegaly, severe diffuse mixed interstitial to alveolar pattern most severe caudo-dorsally, hepatomegaly, dec abdominal serosal contrast

B6 severe generalized cardiomegaly with biventricular heart failure, improved vs rDVM rads

B6 worsening cardiogenic pulmonary edema, cannot exclude lung induced injury +/- pneumonia

B6 post ultrafiltration, improved cardiogenic edema, hypovolemia, residual interstitial to patchy alveolar

B6 improved CHF with possible concern for bronchopneumonia, suspected hiatal hernia

B6 markedly progressive alveolar pattern with significantly worse cardiogenic edema

tFAST **B6** severe cardiomegaly with ventricular hypocontractility

Echo **B6** dcm vs. myocarditis vs pacing induce vs. other (severely dilated & hypocontractile left & right ventricles, severely dilated left and right atria)

Necropsy: Lung-severe diffuse alveolar injury with marked fibrin deposition (hyaline) and marked alveolar histiocytosis and multifocal type II pneumocyte hyperplasia; mod to marked diffuse pulmonary edema; mild cardiomegaly with mild mitral valve endocardiosis and mild left ventricular hypertrophy and left atrial dilation; thorax with mild pleural effusion; Suspect primary non-cardiogenic etiology but if clinical cardiac dysfunction then functional cardiac abnormalities cannot be ruled out

B6

B6

Presented

B6

B6

B6

B6

B6 Rads: left sided congestive heart failure

B6 moderate left sided cardiomegaly without heart failure, moderate hepatomegaly

B6 Echo: mitral valve endocardiosis with left atrial enlargement and heart failure, decreased left ventricular systolic function, suspected DCM

B5

Jennifer Jones, DVM
Veterinary Medical Officer



From: Rotstein, David
Sent: Tuesday, July 11, 2017 12:44 PM
To: Jones, Jennifer L; Reimschuessel, Renate; Palmer, Lee Anne; Carey, Lauren; Queen, Jackie L
Cc: Ceric, Olgica
Subject: RE: Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers

Jen,

B5

, so I don't think that could be ruled out.

I do like the exploration of other causes.

d.

David Rotstein, DVM, MPVM, Dipl. ACVP
CVM Vet-LIRN Liaison
CVM OSC/DC/CERT
7519 Standish Place, RM 120
240-402-5613 (Office) (NEW NUMBER)
240-506-6763 (BB)



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From: Jones, Jennifer L
Sent: Tuesday, July 11, 2017 12:41 PM
To: Reimschuessel, Renate; Rotstein, David; Palmer, Lee Anne; Carey, Lauren; Queen, Jackie L
Cc: Ceric, Olgica
Subject: RE: Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers

Yes, and also, vet talked to MARS who said there was no corn in this food...but that doesn't rule out treats.

B5

Jennifer Jones, DVM
Veterinary Medical Officer



From: Reimschuessel, Renate
Sent: Tuesday, July 11, 2017 11:51 AM
To: Jones, Jennifer L; Rotstein, David; Palmer, Lee Anne; Carey, Lauren; Queen, Jackie L
Cc: Ceric, Olgica
Subject: RE: Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers

Davis may be able to screen for

B5

Renate Reimschuessel V.M.D. Ph.D. Vet-LIRN

Phone 1- 240-402-5404

Fax 301-210-4685

<http://www.fda.gov/AnimalVeterinary/ScienceResearch/ucm247334.htm>

From: Jones, Jennifer L

Sent: Tuesday, July 11, 2017 11:38 AM

To: Rotstein, David; Palmer, Lee Anne; Carey, Lauren; Queen, Jackie L

Cc: Ceric, Olgica; Reimschuessel, Renate

Subject: Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers

Vet will submit PFR online à
2 dogs-unrelated miniature schnauzers

Dog 1: 2 yr à presented 2/2017 with fulminant CHFà severe DCM on echo, taurine/carnitine normal, infectious disease testing negative, died on the ventilator, necropsy done-myocardial changes were subtle but could be similar to moldy corn toxicity in pigsà plasma, urine, serum, and myocardial tissue available

Dog 2: 7 yr, had a syncopal episode ~2/2017 but presented to vet for progressive frequency of syncopal episodesà 6/2017 for CHF, diagnosed with DCM similar to housemate, nearly same image on Echo, taurine/carnitine normal, infectious disease testing negative, they have changed the diet (Hill's) and dog is responding to treatment; plasma, urine, and serum available

Dogs were eating California Naturals (different bag than from 2/2017) and treats (Milo's Kitchen); Vet has samples of food and treats

Jennifer L. A. Jones, DVM

Veterinary Medical Officer

U.S. Food & Drug Administration

Center for Veterinary Medicine

Office of Research

Veterinary Laboratory Investigation and Response Network (Vet-LIRN)

8401 Muirkirk Road, G704

Laurel, Maryland 20708

new tel: 240-402-5421

fax: 301-210-4685

e-mail: jennifer.jones@fda.hhs.gov

Web: <http://www.fda.gov/AnimalVeterinary/ScienceResearch/ucm247334.htm>



From: Darcy Adin <dbadin@ncsu.edu>
To: Jones, Jennifer L
Sent: 8/22/2017 2:11:22 PM
Subject: Re: Pet food concern (800.218)

Thank you for all your help!

On Tue, Aug 22, 2017 at 8:45 AM, Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov> wrote:

B5

The cause of the two dogs' DCM is unclear.

B5

B5

B5

At this time we will not request any further testing. Thank you very much for all your help with the case. Please let me know if you have any additional questions or any future animal food related illness concerns.

Jen

Jennifer Jones, DVM

Veterinary Medical Officer



From: Jones, Jennifer L
Sent: Tuesday, August 22, 2017 8:20 AM
To: 'Darcy Adin'
Cc: Ceric, Olgica
Subject: RE: Pet food concern (800.218)

Thank you for the quick response.

B5

Jennifer Jones, DVM

Veterinary Medical Officer



From: Darcy Adin [<mailto:dbadin@ncsu.edu>]
Sent: Tuesday, August 22, 2017 8:17 AM

To: Jones, Jennifer L
Subject: Re: Pet food concern (800.218)

Hi Jennifer

It was kangaroo. That's great about the **B5** We'll wait for the taurine and **B5** however I guess I'd be surprised if this was the answer since blood amino acid levels were adequate. Is there any other testing that can be done (e.g. **B5**)

Thanks so much!

Darcy

On Aug 22, 2017, at 7:54 AM, Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov> wrote:

My apologies for the second email.

Which dry food (Kangaroo or Venison) was sent to us for the testing?

Jennifer Jones, DVM

Veterinary Medical Officer

<[image001.png](#)> <[image002.png](#)>

From: Jones, Jennifer L
Sent: Tuesday, August 22, 2017 7:37 AM
To: 'Darcy Adin'
Cc: Ceric, Olgica
Subject: RE: Pet food concern (800.218)

Good morning Dr. Adin,

We received results of the product testing for **B5** those were negative. Please see the attached. The results for the **B5** and taurine are in progress. I'll forward along as soon as possible.

Thank you for your patience,
Jen

Jennifer Jones, DVM

Veterinary Medical Officer

<image001.png> <image003.png>

From: Darcy Adin [<mailto:dbadin@ncsu.edu>]
Sent: Friday, August 18, 2017 10:38 AM
To: Jones, Jennifer L
Subject: Re: Pet food concern (800.218)

Hi Dr. Jones,

I'm not sure what timeline to expect so forgive me if this premature, but I wanted to check in to see if you have any information about the cases yet?

Thanks!

Darcy Adin

On Jul 28, 2017, at 9:18 AM, Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov> wrote:

This is great information to add to the case. Thank you, Darcy.

Jennifer Jones, DVM

Veterinary Medical Officer

<image001.png> <image004.png>

From: Darcy Adin [<mailto:dbadin@ncsu.edu>]
Sent: Wednesday, July 26, 2017 9:39 PM
To: Jones, Jennifer L

Subject: Re: Pet food concern (800.218)

Hi Jennifer,

I don't know if there is anything to this but I have treated 2 other dogs in the last 2 weeks with DCM and CHF that are being fed California natural food (one kangaroo and lentil, and we are trying to find out about the other one which is in our ER now). One is mixed breed and we'll recommend testing for taurine deficiency. The other was a golden and taurine was a bit low but not super low so although we supplemented, I wasn't totally convinced it was the cause. Unfortunately she died a week later.

I don't have a sense for how widely fed this diet is but I don't see it on the top selling lists I can find by google, so seeing 4 DCM dogs recently eating this particular food is interesting to say the least. I thought this might be of interest to you as you start to look at the California natural food sample from the B6 dogs.

Thank you!

Darcy

On Jul 26, 2017, at 8:08 AM, Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov> wrote:

Thank you, Darcy. One way I've seen veterinarians handle the reimbursement for other cases is posting the amount to the patient's chart, leaving a balance of the shipping charges. In those cases, our accountant then called and paid the shipping charge balance on the account.

Jennifer Jones, DVM

Veterinary Medical Officer

<[image001.png](#)> <[image002.png](#)>

From: Darcy Adin [<mailto:dbadin@ncsu.edu>]
Sent: Wednesday, July 26, 2017 7:42 AM
To: Jones, Jennifer L
Cc: Ceric, Olgica
Subject: Re: Pet food concern (800.218)

Hi Dr. Jones

We included the invoice in the package. There was a fair bit of discussion here because I don't think there will be an easy way to reimburse - so probably don't worry about it!

Thank you!

Darcy

On Jul 26, 2017, at 6:32 AM, Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov> wrote:

Excellent. Thank you, Darcy. Please email or fax an invoice so we can reimburse you for the shipping.

Jennifer Jones, DVM

Veterinary Medical Officer

<[image001.png](#)> <[image003.png](#)>

From: Darcy Adin [<mailto:dbadin@ncsu.edu>]

Sent: Tuesday, July 25, 2017 10:36 PM

To: Jones, Jennifer L

Cc: Ceric, Olgica

Subject: Re: Pet food concern (800.218)

Thank you Dr. Jones!

It went out tonight by FedEx tonight. I'll look forward to hearing from you soon.

Take care

Darcy

On Tue, Jul 25, 2017 at 10:48 AM, Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov> wrote:

Hi Darcy,

I spoke with my colleague. If you can, please return ship the box using FedEx or your preferred carrier. You'll ship the box for overnight delivery on a Monday-Wednesday. Please ship to:

Attention: Jennifer Jones

8401 Muirkirk Rd

Laurel, MD 20708

After you return ship the box, please email or fax ([301-210-4685](tel:301-210-4685)) an invoice for the shipping charges. We can then call NCSU and reimburse with our VISA information.

Please let me know if you have questions.

Thank you again for your patience,

Jen

Jennifer Jones, DVM

Veterinary Medical Officer

<[image001.png](#)> <[image005.png](#)>

From: Darcy Adin [mailto:dbadin@ncsu.edu]

Sent: Tuesday, July 25, 2017 10:30 AM

To: Jones, Jennifer L

Cc: Ceric, Olgica

Subject: Re: Pet food concern (800.218)

thanks!

On Tue, Jul 25, 2017 at 8:45 AM, Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov> wrote:

Hi Darcy,

I'm sorry for the trouble getting the label. I'm going to reach out to my colleague to get one made for you. I'll send it via email. If that doesn't work, then we can go with FedEx.

Thank you for the update, and sorry for the trouble with the label,

Jen

Jennifer Jones, DVM

Veterinary Medical Officer

<[image001.png](#)> <[image008.png](#)>

From: Darcy Adin [mailto:dbadin@ncsu.edu]

Sent: Monday, July 24, 2017 3:31 PM

To: Jones, Jennifer L

Subject: Re: Pet food concern (800.218)

Hi Jen,

The shipping box arrived this afternoon, however, we don't see a return shipping label. Our shipping and

receiving staff suggested that FedEx might be better since with UPS pick up, we can't control how much time the package may be sitting in the heat. I'm happy to send however you would recommend though!

Thank you!

Darcy

On Fri, Jul 21, 2017 at 12:47 PM, Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov> wrote:

Good afternoon Darcy,

The package will ship today and arrive Monday. UPS said they will give you a return shipping label. For some reason, we were unable to put it in the shipping box we sent to you. UPS, however, has assured us they will give you the label Monday. Please let me know if you do not get that label, because I'll need to get you one.

Thank you,

Jen

Jennifer Jones, DVM

Veterinary Medical Officer

<[image001.png](#)> <[image009.png](#)>

From: Jones, Jennifer L
Sent: Wednesday, July 19, 2017 1:04 PM
To: 'Darcy Adin'
Cc: Ceric, Olgica
Subject: RE: Pet food concern (800.218)

Excellent. Thank you, Darcy. We'll ship the kit to your office to collect the food. It will contain the return shipping label for use with the box.

The box should arrive for you by close of business Tuesday (7/25).

Jen

Jennifer Jones, DVM

Veterinary Medical Officer

<[image001.png](#)> <[image008.png](#)>

From: Darcy Adin [<mailto:dbadin@ncsu.edu>]
Sent: Tuesday, July 18, 2017 9:59 PM
To: Jones, Jennifer L
Cc: Ceric, Olgica
Subject: Re: Pet food concern (800.218)

Hi Dr. Jones,

The owner confirmed that neither do [REDACTED] B5 February or chronically.

Thank you!

Darcy

On Jul 18, 2017, at 8:33 AM, Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov> wrote:

Good morning Dr. Adin,

After reviewing the complaint and medical records, we'd like to request the following:

- Please check with the owner/confirm if [REDACTED] B5 (either in February 2017 or consistently) [REDACTED] B5
- Collect open bag of California Naturals food to test for [REDACTED] B5
 - o Please email me the size/weight of the food.
 - o We will send you an empty box with a prepaid shipping label to send the product back to our lab.
 - o After we test the product, we'll send you the results to share with the owner.

After I get the size/weight of the food, I'll send the box.

Thank you for helping with the case,

Jennifer

Jennifer Jones, DVM

Veterinary Medical Officer

<[image001.png](#)> <[image003.png](#)>

From: Darcy Adin [<mailto:dbadin@ncsu.edu>]
Sent: Tuesday, July 11, 2017 5:44 PM
To: Jones, Jennifer L
Subject: Re: Pet food concern

Hi Jennifer,

I've submitted the reports through the portal - one for each dog. The numbers are:

2023230 (I) for [B6]
2023228 (I) for [B6]

I've also attached the visit summaries for [B6] (2) and [B6] (1) as well as [B6] necropsy report. I have the biological samples stored at -80 and also have food samples.

Thank you so much for your help and I'll look forward to hearing from you or someone on your team!

Take care

Darcy

On Tue, Jul 11, 2017 at 7:33 AM, Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov> wrote:

Hi Darcy,

I can chat today from 11-1pm or or 2-3pm.

Jen

Jennifer Jones, DVM

Veterinary Medical Officer

<[image001.png](#)> <[image010.png](#)>

From: Darcy Adin [<mailto:dbadin@ncsu.edu>]

Sent: Monday, July 10, 2017 6:47 PM

To: Jones, Jennifer L

Cc: Reimschuessel, Renate; [B6]

Subject: Re: Pet food concern

Thank you Dr. Jones! I'm sorry I am just reading email now so I have missed you! I'd love to chat with you about the cases. I am on clinics this week but can try to call you if you have another block of time tomorrow (or later this week). My number is [B6] or I can be paged from [B6]

Thank you!

Darcy

On Jul 10, 2017, at 1:05 PM, Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov> wrote:

Hello Dr. Adin,

Please let me know if you'd like to chat about the case this afternoon. I'll be in the office from 1-3pm (tel: [240-402-5421](tel:240-402-5421)).

If you suspect an animal's illness may be due to the food, you can submit a report at www.safetyreporting.hhs.gov

Please mention Vet-LIRN encouraged you to submit a report. Please email me the ICSR number (similar to a confirmation number), so I can find the report on my end.

Thank you,

Jennifer

Jennifer Jones, DVM

Veterinary Medical Officer

<[image001.png](#)> <[image004.png](#)>

From: Darcy Adin [<mailto:dbadin@ncsu.edu>]
Sent: Monday, July 10, 2017 11:31 AM
To: B6
Cc: Jones, Jennifer L; Reinschuessel, Renate
Subject: Re: Pet food concern

Thank you! I will work on this submission later today. I appreciate your help!

On Mon, Jul 10, 2017 at 10:49 AM, B6 wrote:

Hi Dr. Adin,

As we discussed this morning, one avenue to explore your concern about pet food contamination (toxin or infectious disease) is the FDA program. Here is a website that highlights how you can report a complaint.

<https://www.fda.gov/AnimalVeterinary/SafetyHealth/ReportaProblem/ucm182403.htm>

We work with the FDA Vet-LIRN program on diagnostics from the pet side, but they agree to include the case in

the program and would coordinate with us (or another laboratory). I have copied Dr. Jones and Dr. Reimschuessel here - they can help let us know the process to see if these cases are eligible.

Regards,

B6

--

Darcy B. Adin, DVM, DACVIM (Cardiology)

Clinical Assistant Professor of Cardiology

North Carolina State University

NC State Veterinary Hospital

1060 William Moore Drive

Raleigh, NC 27607

919-513-6032

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NC State Veterinary Hospital

1060 William Moore Drive

Raleigh, NC 27607

919-513-6032

From: Rotstein, David </O=FDA/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=DAVID.ROTSTEIN>
To: Jones, Jennifer L; Palmer, Lee Anne; Queen, Jackie L; Carey, Lauren
CC: Ceric, Olgica; Nemser, Sarah; Reimschuessel, Renate
Sent: 1/3/2018 7:59:43 PM
Subject: RE: 800.218-Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers-EON-323515-323519
Attachments: cardiomyopathy.pdf

Please see the attached article.

B5

David Rotstein, DVM, MPVM, Dipl. ACVP
CVM Vet-LIRN Liaison
CVM OSC/DC/CERT
7519 Standish Place
240-506-6763 (BB)



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From: Jones, Jennifer L
Sent: Wednesday, January 03, 2018 2:32 PM
To: Rotstein, David <David.Rotstein@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Queen, Jackie L <Jackie.Queen@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>
Cc: Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>; Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>
Subject: RE: 800.218-Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers-EON-323515-323519

Going to test the leftover food for [B5] based on our discussion during the PFO meeting today. I asked the vet if any dogs tested (blood/tissue) for [B5]

Jennifer Jones, DVM
Veterinary Medical Officer
Tel: 240-402-5421



From: Rotstein, David
Sent: Tuesday, August 22, 2017 8:39 AM
To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>; Queen, Jackie L <Jackie.Queen@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>
Cc: Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>
Subject: RE: 800.218-Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers-EON-323515-323519

Agreed. Thanks Jen

David Rotstein, DVM, MPVM, Dipl. ACVP
CVM Vet-LIRN Liaison
CVM OSC/DC/CERT
7519 Standish Place
240-506-6763 (BB)



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From: Jones, Jennifer L
Sent: Tuesday, August 22, 2017 8:37 AM
To: Rotstein, David; Palmer, Lee Anne; Reimschuessel, Renate; Queen, Jackie L; Carey, Lauren
Cc: Ceric, Olgica
Subject: RE: 800.218-Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers-EON-323515-323519

BLUF: **Final Conclusion:** The cause of the two dogs' DCM is unclear. The bloodwork for these dogs showed normal taurine and [B5] levels. Based on the dogs' blood taurine/[B5] levels and the dry dog food test results, it is unlikely that [B5] taurine, or [B5] caused the dogs' illness.

B5

B5

B5

Interpretation: No [B5] minimum for dogs or cats. Unclear whether or not this is low, normal, or high.

Final Conclusion: The cause of the two dogs' DCM is unclear. The bloodwork for these dogs showed normal taurine and [B5] levels. Based on the dogs' blood taurine/[B5] levels and the dry dog food test results, it is unlikely that [B5] taurine, or [B5] caused the dogs' illness.

Jennifer Jones, DVM
Veterinary Medical Officer



From: Jones, Jennifer L
Sent: Monday, August 07, 2017 7:02 AM
To: Rotstein, David; Palmer, Lee Anne; Reimschuessel, Renate; Queen, Jackie L; Carey, Lauren
Cc: Ceric, Olgica
Subject: RE: 800.218-Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers-EON-323515-323519

FYI-Taurine/[B5] still pending, but [B5] negative.

Jennifer Jones, DVM
Veterinary Medical Officer



From: Jones, Jennifer L
Sent: Thursday, July 27, 2017 7:25 AM
To: Rotstein, David; Palmer, Lee Anne; Reimschuessel, Renate; Queen, Jackie L; Carey, Lauren
Cc: Ceric, Olgica
Subject: RE: Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers-EON-323515-323519

We received the food and plan to test for [B5] The vet also mentioned two items of interest:

1. She's treated 2 other dogs in last 2 weeks with DCM/CHF and being fed California Natural food. That brings us to 4 DCM dogs recently eating this food.
 - a. We can consider taurine and other types of testing?

B5

Thoughts from the group?

Jennifer Jones, DVM
Veterinary Medical Officer



From: Jones, Jennifer L
Sent: Tuesday, July 18, 2017 8:18 AM
To: Rotstein, David; Palmer, Lee Anne; Reimschuessel, Renate; Queen, Jackie L; Carey, Lauren
Cc: Ceric, Olgica
Subject: RE: Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers-EON-323515-323519

Ok, thanks, Dave. I'll check with: [REDACTED] **B5**

Jennifer Jones, DVM
Veterinary Medical Officer



From: Rotstein, David
Sent: Thursday, July 13, 2017 2:54 PM
To: Jones, Jennifer L; Palmer, Lee Anne; Reimschuessel, Renate; Queen, Jackie L; Carey, Lauren
Cc: Ceric, Olgica
Subject: RE: Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers-EON-323515-323519

I think testing is worth pursuing. Oddball question, [REDACTED] **B5**

I was thinking of the [REDACTED] **B5** and was thinking of [REDACTED] **B5**

This would highly unlikely, but wanted to put it out there.

David Rotstein, DVM, MPVM, Dipl.ACVP
CVM Vet-LIRN Liaison
CVM OSC/DC/CERT
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From: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>
Date: July 13, 2017 at 2:44:24 PM EDT
To: Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>, Rotstein, David <David.Rotstein@fda.hhs.gov>, Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>, Queen, Jackie L <Jackie.Queen@fda.hhs.gov>, Carey, Lauren <Lauren.Carey@fda.hhs.gov>
Cc: Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>
Subject: RE: Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers-EON-323515-323519

We could test for **B5** in food, what does the group think? Any additional testing? Is it worth testing the **B6** /other analytes or trending?

Medical Record Review:

B6

Presenting complaint

B6

B6

PE

B6

B6

Labwork:

B6

B6

B6

Rads

B6

B6 cardiomegaly, severe diffuse mixed interstitial to alveolar pattern most severe caudo-dorsally, hepatomegaly, dec abdominal serosal contrast

B6

severe generalized cardiomegaly with biventricular heart failure, improved vs rDVM rads
worsening cardiogenic pulmonary edema, cannot exclude lung induced injury
+/- pneumonia

B6

post ultrafiltration, improved cardiogenic edema, hypovolemia, residual interstitial to patchy alveolar

B6

improved CHF with possible concern for bronchopneumonia, suspected hiatal hernia
markedly progressive alveolar pattern with significantly worse cardiogenic edema

tFAST

B6

severe cardiomegaly with ventricular hypocontractility

Echo

B6

dcm vs. myocarditis vs pacing induce vs. other (severely dilated & hypocontractile left & right ventricles, severely dilated left and right atria)

Necropsy: Lung-severe diffuse alveolar injury with marked fibrin deposition (hyaline) and marked alveolar histiocytosis and multifocal type II pneumocyte hyperplasia; mod to marked diffuse pulmonary edema; mild cardiomegaly with mild mitral valve endocardiosis and mild left ventricular hypertrophy and left atrial dilation; thorax with mild pleural effusion; Suspect primary non-cardiogenic etiology but if clinical cardiac dysfunction then functional cardiac abnormalities cannot be ruled out

Prior MHx

B6

B6

B6

Presented

B6

B6

B6

ECG: left ventricular enlargement suggested

B6

B6

Rads: left sided congestive heart failure

B6 **B6** moderate left sided cardiomegaly without heart failure, moderate hepatomegaly

Echo: mitral valve endocardiosis with left atrial enlargement and heart failure, decreased left ventricular systolic function, suspected DCM

B5

Jennifer Jones, DVM
Veterinary Medical Officer



From: Rotstein, David
Sent: Tuesday, July 11, 2017 12:44 PM
To: Jones, Jennifer L; Reimschuessel, Renate; Palmer, Lee Anne; Carey, Lauren; Queen, Jackie L
Cc: Ceric, Olgica
Subject: RE: Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers

Jen,

B5 can be present in **B5** so I don't think that could be ruled out.

I do like the exploration of other causes.

d.

David Rotstein, DVM, MPVM, Dipl. ACVP
CVM Vet-LIRN Liaison
CVM OSC/DC/CERT
7519 Standish Place, RM 120
240-402-5613 (Office) (NEW NUMBER)
240-506-6763 (BB)



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From: Jones, Jennifer L
Sent: Tuesday, July 11, 2017 12:41 PM
To: Reimschuessel, Renate; Rotstein, David; Palmer, Lee Anne; Carey, Lauren; Queen, Jackie L
Cc: Ceric, Olgica
Subject: RE: Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers

Yes, and also, vet talked to MARS who said there was no corn in this food... but that doesn't rule out treats.

I'm not sure with normal **B5** and taurine levels if we should suspect issues with those as well.

B5 **B5**

Jennifer Jones, DVM
Veterinary Medical Officer



From: Reimschuessel, Renate
Sent: Tuesday, July 11, 2017 11:51 AM
To: Jones, Jennifer L; Rotstein, David; Palmer, Lee Anne; Carey, Lauren; Queen, Jackie L
Cc: Ceric, Olgica
Subject: RE: Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers

Davis may be able to screen for **B5**

Renate Reimschuessel V.M.D. Ph.D. Vet-LIRN
Phone 1- 240-402-5404
Fax 301-210-4685

<http://www.fda.gov/AnimalVeterinary/ScienceResearch/ucm247334.htm>

From: Jones, Jennifer L
Sent: Tuesday, July 11, 2017 11:38 AM
To: Rotstein, David; Palmer, Lee Anne; Carey, Lauren; Queen, Jackie L
Cc: Ceric, Olgica; Reimschuessel, Renate
Subject: Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers

Vet will submit PFR online à
2 dogs-unrelated miniature schnauzers

Dog 1: 2 yr à presented 2/2017 with fulminant CHF à severe DCM on echo, taurine/carnitine normal, infectious disease testing negative, died on the ventilator, necropsy done-myocardial changes were subtle but could be similar to moldy corn toxicity in pigs à plasma, urine, serum, and myocardial tissue available

Dog 2: 7 yr, had a syncopal episode ~2/2017 but presented to vet for progressive frequency of syncopal episodes à 6/2017 for CHF, diagnosed with DCM similar to housemate, nearly same image on Echo, taurine/carnitine normal, infectious disease testing negative, they have changed the diet (Hill's) and dog is responding to treatment; plasma, urine, and serum available

Dogs were eating California Naturals (different bag than from 2/2017) and treats (Milo's Kitchen); Vet has samples of food and treats

Jennifer L. A. Jones, DVM

Veterinary Medical Officer
U.S. Food & Drug Administration
Center for Veterinary Medicine
Office of Research
Veterinary Laboratory Investigation and Response Network (Vet-LIRN)
8401 Muirkirk Road, G704
Laurel, Maryland 20708
new tel: 240-402-5421
fax: 301-210-4685
e-mail: jennifer.jones@fda.hhs.gov
Web: <http://www.fda.gov/AnimalVeterinary/ScienceResearch/ucm247334.htm>



From: Darcy Adin <dbadin@ncsu.edu>
To: Jones, Jennifer L
CC: Ceric, Olgica; Nemser, Sarah
Sent: 1/4/2018 7:46:50 PM
Subject: Re: dog food concern

I also have a food sample for our current inpatient (same food - California Naturals kangaroo and lentil)

B5

B5

On Thu, Jan 4, 2018 at 2:39 PM, Darcy Adin <dbadin@ncsu.edu> wrote:

The myocardium is from **B6** Maybe we will wait to see what the blood levels show.

B5

Thanks!
Darcy

On Thu, Jan 4, 2018 at 2:14 PM, Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov> wrote:

Thank you for the update. I'll let you know the **B5** concentration from **B6** food after the results are back.

The frozen myocardium, is it from the **B6** case?

Jennifer Jones, DVM

Veterinary Medical Officer

Tel: 240-402-5421



From: Darcy Adin [mailto:dbadin@ncsu.edu]

Sent: Wednesday, January 03, 2018 3:10 PM

To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>

Cc: Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>

Subject: Re: dog food concern

Hi Jennifer,

Thank you! We have not tested for [B5] in any of the dogs. We have stored blood samples from several dogs and have an inpatient right now that we can submit blood from ([B4] runs this). We will probably start with looking at blood samples from 2 dogs as a screening. We also have frozen myocardium from one dog - do you think this should also be evaluated?

Thank you!

Darcy

On Wed, Jan 3, 2018 at 2:30 PM, Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov> wrote:

Good afternoon Darcy,

Happy New Year! Thank you for the additional information. I discussed the information you provided below and from the previous case ([B6] Miniature Schnauzers-800.218) with my colleagues.

Based on our discussions, I will test some leftover food from the 800.218 case, for [B5] content. Have any of the dogs with DCM had blood or tissue [B5] levels tested?

Thank you kindly,

Jen

Jennifer Jones, DVM

Veterinary Medical Officer

Tel: [240-402-5421](tel:240-402-5421)



From: Darcy Adin [<mailto:dbadin@ncsu.edu>]
Sent: Wednesday, January 03, 2018 11:31 AM
To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>
Subject: dog food concern

Hi Dr. Jones,

I'm hoping that you recall our communications over the summer regarding food testing for unrelated housemate dogs that developed DCM. These dogs were eating California Naturals Kangaroo and Lentil diet and we were not able to identify a cause of the DCM, dietary or infectious or toxic.

I wanted to reach out again because we continue to see DCM in non-genetically predisposed breeds and it seems that this diet is a relatively common theme. We have been increasingly better about recording a diet history in dogs that are presented to cardiology or ER at our hospital with DCM in the last 6 months. Most of the dogs have been tested for taurine and carnitine deficiency and have been within the reference range. About half of them are alive and half died close to the time of diagnosis.

I also searched our records for this diet (knowing that recording of diet in the MR history has been spotty at best) and found another pair of unrelated housemate dogs eating California naturals kangaroo and lentil that were diagnosed with DCM 6 months apart.

We will continue to record the cases we see but since last june we have seen 7 dogs eating California Naturals diet (5 kangaroo and lentil) in addition to the pair of housemates from 2016 (so total of 9). We also have 4 dogs eating Acana (3/4 are dobermans though) and 1 each of 4Health and Iams - so maybe these are not necessarily related.

Have you had any other reports of such an association? If you have any other thoughts or testing suggestions, I would be all ears!

Thank you!

Darcy

--

Darcy B. Adin, DVM, DACVIM (Cardiology)

Clinical Assistant Professor of Cardiology

North Carolina State University

NC State Veterinary Hospital

1060 William Moore Drive

Raleigh, NC 27607

919-513-6032

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Darcy B. Adin, DVM, DACVIM (Cardiology)

Clinical Assistant Professor of Cardiology

North Carolina State University

NC State Veterinary Hospital

1060 William Moore Drive

Raleigh, NC 27607

919-513-6032

From: Rotstein, David </O=FDA/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=DAVID.ROTSTEIN>
To: Jones, Jennifer L; Palmer, Lee Anne; Queen, Jackie L; Carey, Lauren
CC: Ceric, Olgica; Nemser, Sarah; Reimschuessel, Renate
Sent: 1/11/2018 2:45:57 PM
Subject: RE: 800.218-Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers-EON-323515-323519

Thanks Jen.

B5

d.

David Rotstein, DVM, MPVM, Dipl. ACVP
CVM Vet-LIRN Liaison
CVM OSC/DC/CERT
7519 Standish Place
240-506-6763 (BB)



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From: Jones, Jennifer L
Sent: Thursday, January 11, 2018 9:36 AM
To: Rotstein, David <David.Rotstein@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Queen, Jackie L <Jackie.Queen@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>
Cc: Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>; Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>
Subject: RE: 800.218-Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers-EON-323515-323519

FYI-

JJ-Vet emailed-“ As additional information, one of our cardiologist colleagues in **B6** posted a question about this association today on our list serve. She has seen 4 cases of DCM in dogs eating kangaroo and lentil (I assume CN but not sure) in the last year - 2 were housemates but related.”

Jennifer Jones, DVM

Veterinary Medical Officer

Tel: 240-402-5421



From: Jones, Jennifer L

Sent: Wednesday, January 03, 2018 2:32 PM

To: Rotstein, David <David.Rotstein@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Queen, Jackie L <Jackie.Queen@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>

Cc: Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>;

'Reimschuessel, Renate (Renate.Reimschuessel@fda.hhs.gov)' <Renate.Reimschuessel@fda.hhs.gov>

Subject: RE: 800.218-Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers-EON-323515-323519

Going to test the leftover food for **B5** based on our discussion during the PFO meeting today. I asked the vet if any dogs tested (blood/tissue) for **B5**

Jennifer Jones, DVM

Veterinary Medical Officer

Tel: 240-402-5421



From: Rotstein, David

Sent: Tuesday, August 22, 2017 8:39 AM

To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>;

Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>; Queen, Jackie L

<Jackie.Queen@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>

Cc: Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>

Subject: RE: 800.218-Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers-EON-323515-323519

Agreed. Thanks Jen

David Rotstein, DVM, MPVM, Dipl. ACVP

CVM Vet-LIRN Liaison

CVM OSC/DC/CERT

7519 Standish Place

240-506-6763 (BB)



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From: Jones, Jennifer L

Sent: Tuesday, August 22, 2017 8:37 AM

To: Rotstein, David; Palmer, Lee Anne; Reimschuessel, Renate; Queen, Jackie L; Carey, Lauren

Cc: Ceric, Olgica

Subject: RE: 800.218-Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers-EON-323515-323519

BLUF: **Final Conclusion:** The cause of the two dogs' DCM is unclear. The bloodwork for these dogs showed normal taurine and [B5] levels. Based on the dogs' blood taurine [B5] levels and the dry dog food test results, it is unlikely that [B5] taurine, or [B5] caused the dogs' illness.

B5

6

Final Conclusion: The cause of the two dogs' DCM is unclear. The bloodwork for these dogs showed normal taurine and [B5] levels. Based on the dogs' blood taurine [B5] levels and the dry dog food test results, it is unlikely that [B5] taurine, or [B5] caused the dogs' illness.

Jennifer Jones, DVM
Veterinary Medical Officer



From: Jones, Jennifer L
Sent: Monday, August 07, 2017 7:02 AM
To: Rotstein, David; Palmer, Lee Anne; Reimschuessel, Renate; Queen, Jackie L; Carey, Lauren
Cc: Ceric, Olgica
Subject: RE: 800.218-Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers-EON-323515-323519

FYI-Taurine [B5] still pending, but [B5] negative.

Jennifer Jones, DVM
Veterinary Medical Officer



From: Jones, Jennifer L
Sent: Thursday, July 27, 2017 7:25 AM
To: Rotstein, David; Palmer, Lee Anne; Reimschuessel, Renate; Queen, Jackie L; Carey, Lauren
Cc: Ceric, Olgica
Subject: RE: Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers-EON-323515-323519

We received the food and plan to test for [B5]. The vet also mentioned two items of interest:

1. She's treated 2 other dogs in last 2 weeks with DCM/CHF and being fed California Natural food. That brings us to 4 DCM dogs recently eating this food.
 - a. We can consider taurine and other types of testing?

[B5]

Thoughts from the group?

Jennifer Jones, DVM
Veterinary Medical Officer



From: Jones, Jennifer L
Sent: Tuesday, July 18, 2017 8:18 AM
To: Rotstein, David; Palmer, Lee Anne; Reimschuessel, Renate; Queen, Jackie L; Carey, Lauren
Cc: Ceric, Olgica
Subject: RE: Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers-EON-323515-323519

Ok, thanks, Dave. I'll check with [B5]

[B5]

Jennifer Jones, DVM
Veterinary Medical Officer



From: Rotstein, David
Sent: Thursday, July 13, 2017 2:54 PM
To: Jones, Jennifer L; Palmer, Lee Anne; Reimschuessel, Renate; Queen, Jackie L; Carey, Lauren
Cc: Ceric, Olgica
Subject: RE: Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers-EON-323515-323519

I think testing is worth pursuing. Oddball question, [B5]

[B5]

I was thinking of the [B5] and was thinking of [B5]

[B5]

[B5]

This would highly unlikely, but wanted to put it out there.

David Rotstein, DVM, MPVM, Dipl.ACVP
CVM Vet-LIRN Liaison
CVM OSC/DC/CERT
7519 Standish Place
240-506-6763 (BB)

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From: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>
Date: July 13, 2017 at 2:44:24 PM EDT
To: Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>, Rotstein, David <David.Rotstein@fda.hhs.gov>, Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>, Queen, Jackie L <Jackie.Queen@fda.hhs.gov>, Carey, Lauren <Lauren.Carey@fda.hhs.gov>
Cc: Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>
Subject: RE: Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers-EON-323515-323519

We could test for **B5** in food, what does the group think? Any additional testing? Is it worth testing the **B5**

Medical Record Review:

B6

Presenting complaint

B6

B6

PE

B6

B6

Labwork:

B6

B6

ECG: suspected atrial tachycardia

Rads **B6**: concern for aspiration pneumonia

B6 cardiomegaly, severe diffuse mixed interstitial to alveolar pattern most severe caudo-dorsally, hepatomegaly, dec abdominal serosal contrast

B6 severe generalized cardiomegaly with biventricular heart failure, improved vs rDVM rads
B6 worsening cardiogenic pulmonary edema, cannot exclude lung induced injury
+/- pneumonia

B6: post ultrafiltration, improved cardiogenic edema, hypovolemia, residual interstitial to patchy alveolar

B6 improved CHF with possible concern for bronchopneumonia, suspected hiatal hernia
B6 markedly progressive alveolar pattern with significantly worse cardiogenic edema

tFAST **B6**: severe cardiomegaly with ventricular hypocontractility

Echo **B6** dcm vs. myocarditis vs pacing induce vs. other (severely dilated & hypocontractile left & right ventricles, severely dilated left and right atria)

Necropsy: Lung-severe diffuse alveolar injury with marked fibrin deposition (hyaline) and marked alveolar histiocytosis and multifocal type II pneumocyte hyperplasia; mod to marked diffuse pulmonary edema; mild cardiomegaly with mild mitral valve endocardiosis and mild left ventricular hypertrophy and left atrial dilation; thorax with mild pleural effusion; Suspect primary non-cardiogenic etiology but if

clinical cardiac dysfunction then functional cardiac abnormalities cannot be ruled out

Prior MHx: [redacted] B6
[redacted] B6

B6

Presented [redacted] B6

B6

B6

ECG: left ventricular enlargement suggested

B6

B6 Rads: left sided congestive heart failure

B6 moderate left sided cardiomegaly without heart failure, moderate hepatomegaly

B6 Echo: mitral valve endocardiosis with left atrial enlargement and heart failure, decreased left ventricular systolic function, suspected DCM

B5
B5

Jennifer Jones, DVM
Veterinary Medical Officer



From: Rotstein, David
Sent: Tuesday, July 11, 2017 12:44 PM
To: Jones, Jennifer L; Reimschuessel, Renate; Palmer, Lee Anne; Carey, Lauren; Queen, Jackie L
Cc: Ceric, Olgica
Subject: RE: Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers

Jen,

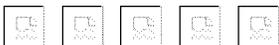
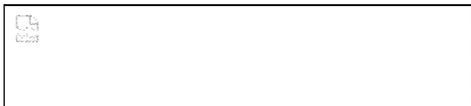
B5

so I don't think that could be ruled out.

I do like the exploration of other causes.

d.

David Rotstein, DVM, MPVM, Dipl. ACVP
CVM Vet-LIRN Liaison
CVM OSC/DC/CERT
7519 Standish Place, RM 120
240-402-5613 (Office) (NEW NUMBER)
240-506-6763 (BB)



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Cc: Ceric, Olgica
Subject: RE: Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers

Yes, and also, vet talked to MARS who said there was no corn in this food...but that doesn't rule out

treats.

I'm not sure with normal B5 and taurine levels if we should suspect issues with those as well.

B5

B5

Jennifer Jones, DVM
Veterinary Medical Officer



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To: Jones, Jennifer L; Rotstein, David; Palmer, Lee Anne; Carey, Lauren; Queen, Jackie L
Cc: Ceric, Olgica
Subject: RE: Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers

Davis may be able to screen for B5

Renate Reimschuessel V.M.D. Ph.D. Vet-LIRN
Phone 1- 240-402-5404
Fax 301-210-4685
<http://www.fda.gov/AnimalVeterinary/ScienceResearch/ucm247334.htm>

From: Jones, Jennifer L
Sent: Tuesday, July 11, 2017 11:38 AM
To: Rotstein, David; Palmer, Lee Anne; Carey, Lauren; Queen, Jackie L
Cc: Ceric, Olgica; Reimschuessel, Renate
Subject: Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers

Vet will submit PFR online à
2 dogs-unrelated miniature schnauzers

Dog 1: 2 yr à presented 2/2017 with fulminant CHF à severe DCM on echo, taurine/carnitine normal, infectious disease testing negative, died on the ventilator, necropsy done-myocardial changes were subtle but could be similar to moldy corn toxicity in pigs à plasma, urine, serum, and myocardial tissue available

Dog 2: 7 yr, had a syncopal episode ~2/2017 but presented to vet for progressive frequency of syncopal episodes à 6/2017 for CHF, diagnosed with DCM similar to housemate, nearly same image on Echo, taurine/carnitine normal, infectious disease testing negative, they have changed the diet (Hill's) and dog is responding to treatment; plasma, urine, and serum available

Dogs were eating California Naturals (different bag than from 2/2017) and treats (Milo's Kitchen); Vet has samples of food and treats

Jennifer L. A. Jones, DVM
Veterinary Medical Officer
U.S. Food & Drug Administration
Center for Veterinary Medicine
Office of Research
Veterinary Laboratory Investigation and Response Network (Vet-LIRN)
8401 Muirkirk Road, G704
Laurel, Maryland 20708

new tel: 240-402-5421

fax: 301-210-4685

e-mail: jennifer.jones@fda.hhs.gov

Web: <http://www.fda.gov/AnimalVeterinary/ScienceResearch/ucm247334.htm>



From: Jones, Jennifer L </O=FDA/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=JENNIFER.JONESAA8>
To: Rotstein, David; Palmer, Lee Anne; Queen, Jackie L; Carey, Lauren
CC: Ceric, Olgica; Nemser, Sarah; Reimschuessel, Renate
Sent: 1/11/2018 2:50:57 PM
Subject: RE: 800.218-Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers-EON-323515-323519

Thanks, Dave. If you have info readily available that's great. If no, I can look/prompt NCSU to look too.

Jennifer Jones, DVM
Veterinary Medical Officer
Tel: 240-402-5421



From: Rotstein, David
Sent: Thursday, January 11, 2018 9:46 AM
To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Queen, Jackie L <Jackie.Queen@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>
Cc: Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>; Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>
Subject: RE: 800.218-Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers-EON-323515-323519

Thanks Jen.

B5

d.

David Rotstein, DVM, MPVM, Dipl. ACVP
CVM Vet-LIRN Liaison
CVM OSC/DC/CERT
7519 Standish Place
240-506-6763 (BB)



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From: Jones, Jennifer L

Sent: Thursday, January 11, 2018 9:36 AM

To: Rotstein, David <David.Rotstein@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Queen, Jackie L <Jackie.Queen@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>

Cc: Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>; Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>

Subject: RE: 800.218-Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers-EON-323515-323519

FYI-

JJ-Vet emailed-“ As additional information, one of our cardiologist colleagues in **B6** posted a question about this association today on our list serve. She has seen 4 cases of DCM in dogs eating kangaroo and lentil (I assume CN but not sure) in the last year - 2 were housemates but related.”

Jennifer Jones, DVM
Veterinary Medical Officer
Tel: 240-402-5421



From: Jones, Jennifer L

Sent: Wednesday, January 03, 2018 2:32 PM

To: Rotstein, David <David.Rotstein@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Queen, Jackie L <Jackie.Queen@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>

Cc: Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>;

'Reimschuessel, Renate (Renate.Reimschuessel@fda.hhs.gov)' <Renate.Reimschuessel@fda.hhs.gov>

Subject: RE: 800.218-Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers-EON-323515-323519

Going to test the leftover food for **B5** based on our discussion during the PFO meeting today. I asked the vet if any dogs tested (blood/tissue) for **B5**

Jennifer Jones, DVM
Veterinary Medical Officer
Tel: 240-402-5421



From: Rotstein, David

Sent: Tuesday, August 22, 2017 8:39 AM

To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>; Queen, Jackie L <Jackie.Queen@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>

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Subject: RE: 800.218-Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers-EON-323515-323519

Agreed. Thanks Jen

David Rotstein, DVM, MPVM, Dipl. ACVP
CVM Vet-LIRN Liaison
CVM OSC/DC/CERT
7519 Standish Place
240-506-6763 (BB)



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BLUF: **Final Conclusion:** The cause of the two dogs' DCM is unclear. The bloodwork for these dogs showed normal taurine and **B5** levels. Based on the dogs' blood taurine **B5** levels and the dry dog food test results, it is unlikely that **B5** taurine, or **B5** caused the dogs' illness.

B5

Final Conclusion: The cause of the two dogs' DCM is unclear. The bloodwork for these dogs showed normal taurine and **B5** levels. Based on the dogs' blood taurine **B5** levels and the dry dog food test results, it is unlikely that **B5** taurine, or **B5** caused the dogs' illness.

Jennifer Jones, DVM
Veterinary Medical Officer



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To: Rotstein, David; Palmer, Lee Anne; Reimschuessel, Renate; Queen, Jackie L; Carey, Lauren
Cc: Ceric, Olgica
Subject: RE: 800.218-Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers-EON-323515-323519

FYI-Taurine **B5** still pending, but **B5** negative.

Jennifer Jones, DVM
Veterinary Medical Officer



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Sent: Thursday, July 27, 2017 7:25 AM
To: Rotstein, David; Palmer, Lee Anne; Reimschuessel, Renate; Queen, Jackie L; Carey, Lauren
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Subject: RE: Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers-EON-323515-323519

We received the food and plan to test for **B5**. The vet also mentioned two items of interest:

1. She's treated 2 other dogs in last 2 weeks with DCM/CHF and being fed California Natural food. That brings us to 4 DCM dogs recently eating this food.
 - a. We can consider taurine and other types of testing?

B5

Thoughts from the group?

Jennifer Jones, DVM
Veterinary Medical Officer



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Subject: RE: Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers-EON-323515-323519

Ok, thanks, Dave. I'll check with the

B5

Jennifer Jones, DVM
Veterinary Medical Officer



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Sent: Thursday, July 13, 2017 2:54 PM
To: Jones, Jennifer L; Palmer, Lee Anne; Reimschuessel, Renate; Queen, Jackie L; Carey, Lauren
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Subject: RE: Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers-EON-323515-323519

I think testing is worth pursuing. Oddball question:

B5

I was thinking of the **B5** and was thinking of

B5

This would highly unlikely, but wanted to put it out there.

David Rotstein, DVM, MPVM, Dipl.ACVP
CVM Vet-LIRN Liaison
CVM OSC/DC/CERT
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From: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>
Date: July 13, 2017 at 2:44:24 PM EDT
To: Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>, Rotstein, David <David.Rotstein@fda.hhs.gov>, Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>, Queen, Jackie L <Jackie.Queen@fda.hhs.gov>, Carey, Lauren <Lauren.Carey@fda.hhs.gov>
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We could test for **B5** in food, what does the group think? Any additional testing? Is it worth testing the **B5**

Medical Record Review:

B6

B6

Rads

B6

B6 : cardiomegaly, severe diffuse mixed interstitial to alveolar pattern most severe caudo-dorsally, hepatomegaly, dec abdominal serosal contrast

severe generalized cardiomegaly with biventricular heart failure, improved vs rDVM rads

B6 worsening cardiogenic pulmonary edema, cannot exclude lung induced injury +/- pneumonia

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B6 markedly progressive alveolar pattern with significantly worse cardiogenic edema

tFAST **B6** severe cardiomegaly with ventricular hypocontractility

Echo **B6** dcm vs. myocarditis vs pacing induce vs. other (severely dilated & hypocontractile left & right ventricles, severely dilated left and right atria)

Necropsy: Lung-severe diffuse alveolar injury with marked fibrin deposition (hyaline) and marked alveolar histiocytosis and multifocal type II pneumocyte hyperplasia; mod to marked diffuse pulmonary edema; mild cardiomegaly with mild mitral valve endocardiosis and mild left ventricular hypertrophy and left atrial dilation; thorax with mild pleural effusion; Suspect primary non-cardiogenic etiology but if clinical cardiac dysfunction then functional cardiac abnormalities cannot be ruled out

Prior MHx **B6**

B6

B6

ECG: left ventricular enlargement suggested

B6

B6

B6 Rads: left sided congestive heart failure

B6 moderate left sided cardiomegaly without heart failure, moderate hepatomegaly

B6 Echo: mitral valve endocardiosis with left atrial enlargement and heart failure, decreased left ventricular systolic function, suspected DCM

B5

B5

Jennifer Jones, DVM
Veterinary Medical Officer



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Subject: RE: Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers

Jen,

B5

so I don't think that could be ruled out.

I do like the exploration of other causes.

d.

David Rotstein, DVM, MPVM, Dipl. ACVP
CVM Vet-LIRN Liaison
CVM OSC/DC/CERT
7519 Standish Place, RM 120
240-402-5613 (Office) (NEW NUMBER)
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Yes, and also, vet talked to MARS who said there was no corn in this food... but that doesn't rule out treats.

I'm not sure with normal **B5** and taurine levels if we should suspect issues with those as well.

B5

B5

Jennifer Jones, DVM
 Veterinary Medical Officer



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Cc: Ceric, Olgica
Subject: RE: Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers

Davis may be able to screen for **B5**

Renate Reimschuessel V.M.D. Ph.D. Vet-LIRN
Phone 1- 240-402-5404
 Fax 301-210-4685
<http://www.fda.gov/AnimalVeterinary/ScienceResearch/ucm247334.htm>

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Vet will submit PFR online à
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Dog 2: 7 yr, had a syncopal episode ~2/2017 but presented to vet for progressive frequency of syncopal episodesà 6/2017 for CHF, diagnosed with DCM similar to housemate, nearly same image on Echo, taurine/carnitine normal, infectious disease testing negative, they have changed the diet (Hill's) and dog is responding to treatment; plasma, urine, and serum available

Dogs were eating California Naturals (different bag than from 2/2017) and treats (Milo's Kitchen); Vet has samples of food and treats

Jennifer L. A. Jones, DVM

Veterinary Medical Officer
U.S. Food & Drug Administration
Center for Veterinary Medicine
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Veterinary Laboratory Investigation and Response Network (Vet-LIRN)
8401 Muirkirk Road, G704
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e-mail: jennifer.jones@fda.hhs.gov
Web: <http://www.fda.gov/AnimalVeterinary/ScienceResearch/ucm247334.htm>



From: Rotstein, David </O=FDA/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=DAVID.ROTSTEIN>
To: Jones, Jennifer L; Palmer, Lee Anne; Queen, Jackie L; Carey, Lauren
CC: Ceric, Olgica; Nemser, Sarah; Reimschuessel, Renate
Sent: 1/11/2018 3:05:21 PM
Subject: RE: 800.218-Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers-EON-323515-323519
Attachments: 1925740_1662_Bossart_Cardiomyopathy.pdf; Kogia [B5] 1-s2.0-S0045653512006728-main.pdf; Kogia [B5] -s2.0-S0946672X16302577-main.pdf

Here you go!

I couldn't get the original article:

J Am Vet Med Assoc. 1985 Dec 1;187(11):1137-40.

Cardiomyopathy in stranded pygmy and dwarf sperm whales.

Bossart GD, Odell DK, Altman NH.

Abstract

Necropsy and histologic examinations were performed in 23 pygmy sperm whales (*Kogia breviceps*) and 6 dwarf sperm whales (*Kogia simus*) that had been stranded singly or in cow-calf pairs along the southeastern coastline of the United States. At necropsy, the gross findings in the adult whales included pale, flabby right ventricles. Microscopically, lesions in the hearts of the whales were characterized by moderate to extensive myocellular degeneration, atrophy, and fibrosis. Similar changes were not seen in 5 of 6 sexually immature whales or in the whale calves. Hepatic changes were consistent with heart failure. The cause of the myocardial lesions was not determined. The systemic effects of failing myocardium probably were a major reason for the stranding of the adult whales.

David Rotstein, DVM, MPVM, Dipl. ACVP
CVM Vet-LIRN Liaison
CVM OSC/DC/CERT
7519 Standish Place
240-506-6763 (BB)



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From: Jones, Jennifer L
Sent: Thursday, January 11, 2018 9:51 AM
To: Rotstein, David <David.Rotstein@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Queen, Jackie L <Jackie.Queen@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>
Cc: Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>; Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>
Subject: RE: 800.218-Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers-EON-323515-323519

Thanks, Dave. If you have info readily available that's great. If no, I can look/prompt NCSU to look too.

Jennifer Jones, DVM
Veterinary Medical Officer
Tel: 240-402-5421



From: Rotstein, David
Sent: Thursday, January 11, 2018 9:46 AM
To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Queen, Jackie L <Jackie.Queen@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>
Cc: Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>; Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>
Subject: RE: 800.218-Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers-EON-323515-323519

Thanks Jen.

B5

d.

David Rotstein, DVM, MPVM, Dipl. ACVP
CVM Vet-LIRN Liaison
CVM OSC/DC/CERT
7519 Standish Place
240-506-6763 (BB)



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From: Jones, Jennifer L
Sent: Thursday, January 11, 2018 9:36 AM
To: Rotstein, David <David.Rotstein@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Queen, Jackie L <Jackie.Queen@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>
Cc: Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>; Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>
Subject: RE: 800.218-Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers-EON-323515-323519

FYI-

JJ-Vet emailed-“ As additional information, one of our cardiologist colleagues in **B6** posted a question about

this association today on our list serve. She has seen 4 cases of DCM in dogs eating kangaroo and lentil (I assume CN but not sure) in the last year - 2 were housemates but related.”

Jennifer Jones, DVM
Veterinary Medical Officer
Tel: 240-402-5421



From: Jones, Jennifer L

Sent: Wednesday, January 03, 2018 2:32 PM

To: Rotstein, David <David.Rotstein@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Queen, Jackie L <Jackie.Queen@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>

Cc: Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>;

'Reimschuessel, Renate (Renate.Reimschuessel@fda.hhs.gov)' <Renate.Reimschuessel@fda.hhs.gov>

Subject: RE: 800.218-Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers-EON-323515-323519

Going to test the leftover food for B5 based on our discussion during the PFO meeting today. I asked the vet if any dogs tested (blood/tissue) for B5

Jennifer Jones, DVM
Veterinary Medical Officer
Tel: 240-402-5421



From: Rotstein, David

Sent: Tuesday, August 22, 2017 8:39 AM

To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>; Queen, Jackie L <Jackie.Queen@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>

Cc: Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>

Subject: RE: 800.218-Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers-EON-323515-323519

Agreed. Thanks Jen

David Rotstein, DVM, MPVM, Dipl. ACVP
CVM Vet-LIRN Liaison
CVM OSC/DC/CERT
7519 Standish Place
240-506-6763 (BB)



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From: Jones, Jennifer L

Sent: Tuesday, August 22, 2017 8:37 AM

To: Rotstein, David; Palmer, Lee Anne; Reimschuessel, Renate; Queen, Jackie L; Carey, Lauren

Cc: Ceric, Olgica

Subject: RE: 800.218-Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers-EON-323515-323519

BLUF: **Final Conclusion:** The cause of the two dogs' DCM is unclear. The bloodwork for these dogs showed normal taurine and [B5] levels. Based on the dogs' blood taurine [B5] levels and the dry dog food test results, it is unlikely that [B5] taurine, or [B5] caused the dogs' illness.

B5

Final Conclusion: The cause of the two dogs' DCM is unclear. The bloodwork for these dogs showed normal taurine and [B5] levels. Based on the dogs' blood taurine [B5] levels and the dry dog food test results, it is unlikely that [B5] taurine, or [B5] caused the dogs' illness.

Jennifer Jones, DVM
Veterinary Medical Officer



From: Jones, Jennifer L
Sent: Monday, August 07, 2017 7:02 AM
To: Rotstein, David; Palmer, Lee Anne; Reimschuessel, Renate; Queen, Jackie L; Carey, Lauren
Cc: Ceric, Olgica
Subject: RE: 800.218-Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers-EON-323515-323519

FYI-Taurine [B5] still pending, but [B5] negative.

Jennifer Jones, DVM
Veterinary Medical Officer



From: Jones, Jennifer L
Sent: Thursday, July 27, 2017 7:25 AM
To: Rotstein, David; Palmer, Lee Anne; Reimschuessel, Renate; Queen, Jackie L; Carey, Lauren
Cc: Ceric, Olgica
Subject: RE: Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers-EON-323515-323519

We received the food and plan to test for [B5]. The vet also mentioned two items of interest:

1. She's treated 2 other dogs in last 2 weeks with DCM/CHF and being fed California Natural food. That brings us to 4 DCM dogs recently eating this food.
 - a. We can consider taurine and other types of testing?

[B5]

Thoughts from the group?

Jennifer Jones, DVM
Veterinary Medical Officer



From: Jones, Jennifer L
Sent: Tuesday, July 18, 2017 8:18 AM
To: Rotstein, David; Palmer, Lee Anne; Reimschuessel, Renate; Queen, Jackie L; Carey, Lauren
Cc: Ceric, Olgica
Subject: RE: Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers-EON-323515-323519

Ok, thanks, Dave. I'll check [B5]

Jennifer Jones, DVM
Veterinary Medical Officer



From: Rotstein, David
Sent: Thursday, July 13, 2017 2:54 PM
To: Jones, Jennifer L; Palmer, Lee Anne; Reimschuessel, Renate; Queen, Jackie L; Carey, Lauren
Cc: Ceric, Olgica
Subject: RE: Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers-EON-323515-323519

I think testing is worth pursuing. Oddball question

B5

I was thinking of the

B6

and was thinking of

B6

This would highly unlikely, but wanted to put it out there.

David Rotstein, DVM, MPVM, Dipl.ACVP
CVM Vet-LIRN Liaison
CVM OSC/DC/CERT
7519 Standish Place

B6

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From: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>

Date: July 13, 2017 at 2:44:24 PM EDT

To: Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>, Rotstein, David <David.Rotstein@fda.hhs.gov>, Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>, Queen, Jackie L <Jackie.Queen@fda.hhs.gov>, Carey, Lauren <Lauren.Carey@fda.hhs.gov>

Cc: Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>

Subject: RE: Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers-EON-323515-323519

We could test for **B5** in food, what does the group think? Any additional testing? Is it worth testing the **B5**

Medical Record Review:

B6

Presenting complaint

B6

B6

PE

B6

B6

Labwork:

B6

B6

ECG: suspected atrial tachycardia

Rads **B6** concern for aspiration pneumonia

B6 cardiomegaly, severe diffuse mixed interstitial to alveolar pattern most severe caudo-dorsally, hepatomegaly, dec abdominal serosal contrast

B6 severe generalized cardiomegaly with biventricular heart failure, improved vs rDVM rads
B6 worsening cardiogenic pulmonary edema, cannot exclude lung induced injury
+/- pneumonia

B6 post ultrafiltration, improved cardiogenic edema, hypovolemia, residual interstitial to patchy alveolar

B6 improved CHF with possible concern for bronchopneumonia, suspected hiatal hernia

B6 markedly progressive alveolar pattern with significantly worse cardiogenic edema

tFAST **B6** severe cardiomegaly with ventricular hypocontractility

Echo **B6** dcm vs. myocarditis vs pacing induce vs. other (severely dilated & hypocontractile left & right ventricles, severely dilated left and right atria)

Necropsy: Lung-severe diffuse alveolar injury with marked fibrin deposition (hyaline) and marked alveolar histiocytosis and multifocal type II pneumocyte hyperplasia; mod to marked diffuse pulmonary edema; mild cardiomegaly with mild mitral valve endocardiosis and mild left ventricular hypertrophy and left atrial dilation; thorax with mild pleural effusion; Suspect primary non-cardiogenic etiology but if clinical cardiac dysfunction then functional cardiac abnormalities cannot be ruled out

Prior MHx: B6 B6

B6

Presented B6

B6

B6

Labs: **B6**

ECG: left ventricular enlargement suggested

B6

B6 **Rads:** left sided congestive heart failure

B6 moderate left sided cardiomegaly without heart failure, moderate hepatomegaly

B6 **Echo:** mitral valve endocardiosis with left atrial enlargement and heart failure, decreased left ventricular systolic function, suspected DCM

B5

B5

Jennifer Jones, DVM
Veterinary Medical Officer



From: Rotstein, David
Sent: Tuesday, July 11, 2017 12:44 PM
To: Jones, Jennifer L; Reimschuessel, Renate; Palmer, Lee Anne; Carey, Lauren; Queen, Jackie L
Cc: Ceric, Olgica
Subject: RE: Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers

Jen,

B5

so I don't think that could be ruled out.

I do like the exploration of other causes.

d.

David Rotstein, DVM, MPVM, Dipl. ACVP
CVM Vet-LIRN Liaison
CVM OSC/DC/CERT
7519 Standish Place, RM 120
240-402-5613 (Office) (NEW NUMBER)
240-506-6763 (BB)



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From: Jones, Jennifer L
Sent: Tuesday, July 11, 2017 12:41 PM
To: Reimschuessel, Renate; Rotstein, David; Palmer, Lee Anne; Carey, Lauren; Queen, Jackie L
Cc: Ceric, Olgica
Subject: RE: Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers

Yes, and also, vet talked to MARS who said there was no corn in this food...but that doesn't rule out treats.

I'm not sure with normal **B5** and taurine levels if we should suspect issues with those as well.

B5

B5

Jennifer Jones, DVM
Veterinary Medical Officer



From: Reimschuessel, Renate
Sent: Tuesday, July 11, 2017 11:51 AM
To: Jones, Jennifer L; Rotstein, David; Palmer, Lee Anne; Carey, Lauren; Queen, Jackie L
Cc: Ceric, Olgica
Subject: RE: Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers

Davis may be able to screen for **B5**

Renate Reimschuessel V.M.D. Ph.D. Vet-LIRN
Phone 1- 240-402-5404
Fax 301-210-4685
<http://www.fda.gov/AnimalVeterinary/ScienceResearch/ucm247334.htm>

From: Jones, Jennifer L
Sent: Tuesday, July 11, 2017 11:38 AM
To: Rotstein, David; Palmer, Lee Anne; Carey, Lauren; Queen, Jackie L
Cc: Ceric, Olgica; Reimschuessel, Renate
Subject: Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers

Vet will submit PFR online à
2 dogs-unrelated miniature schnauzers

Dog 1: 2 yr à presented 2/2017 with fulminant CHFà severe DCM on echo, taurine/carnitine normal, infectious disease testing negative, died on the ventilator, necropsy done-myocardial changes were subtle but could be similar to moldy corn toxicity in pigsà plasma, urine, serum, and myocardial tissue available

Dog 2: 7 yr, had a syncopal episode ~2/2017 but presented to vet for progressive frequency of syncopal episodesà 6/2017 for CHF, diagnosed with DCM similar to housemate, nearly same image on Echo, taurine/carnitine normal, infectious disease testing negative, they have changed the diet (Hill's) and dog is responding to treatment; plasma, urine, and serum available

Dogs were eating California Naturals (different bag than from 2/2017) and treats (Milo's Kitchen); Vet

has samples of food and treats

Jennifer L. A. Jones, DVM

Veterinary Medical Officer
U.S. Food & Drug Administration
Center for Veterinary Medicine
Office of Research
Veterinary Laboratory Investigation and Response Network (Vet-LIRN)
8401 Muirkirk Road, G704
Laurel, Maryland 20708
new tel: 240-402-5421
fax: 301-210-4685
e-mail: jennifer.jones@fda.hhs.gov
Web: <http://www.fda.gov/AnimalVeterinary/ScienceResearch/ucm247334.htm>



From: Jones, Jennifer L </O=FDA/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=JENNIFER.JONESAA8>
To: Darcy Adin
CC: Ceric, Olgica; Nemser, Sarah
Sent: 1/12/2018 1:01:50 PM
Subject: RE: dog food concern
Attachments: 1925740_1662_Bossart_Cardiomyopathy.pdf; Kogia selenium 2 1-s2.0-S0045653512006728-main.pdf; Kogia selenium-1-s2.0-S0946672X16302577-main.pdf

Thank you, Darcy.

B5

B5

I'll forward the feed results when they are back.

Have a nice weekend,
Jen

Jennifer Jones, DVM
Veterinary Medical Officer
Tel: 240-402-5421



From: Darcy Adin [mailto:dbadin@ncsu.edu]
Sent: Wednesday, January 10, 2018 6:13 PM
To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>
Cc: Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>
Subject: Re: dog food concern

Thank you Jennifer - we will be on the lookout for it.

As additional information, one of our cardiologist colleagues in [B6] posted a question about this association today on our list serve. She has seen 4 cases of DCM in dogs eating kangaroo and lentil (I assume CN but not sure) in the last year - 2 were housemates but related.

Take care
Darcy

On Jan 10, 2018, at 8:05 AM, Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov> wrote:

Thank you, Darcy. We're sending the kit this week. It should arrive by close of business Friday.

Jennifer Jones, DVM
Veterinary Medical Officer
Tel: 240-402-5421
<image001.png> <image006.png>

From: Darcy Adin [mailto:dbadin@ncsu.edu]
Sent: Tuesday, January 09, 2018 11:27 AM
To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>
Cc: Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>
Subject: Re: dog food concern

Hi Jennifer,

That is great! I've attached a picture of the food sample - the weight is 0.36 kg. We sent blood samples off from 2 dogs to test for [B5] one was in the reference range and the other a bit high.

Thank you!
Take care
Darcy

On Tue, Jan 9, 2018 at 10:07 AM, Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov> wrote:
Good morning Darcy,

We'd like to collect some of the food from your current case (California Naturals Kangaroo). I'm going to send it with the archived sample of food from the [B6] case. [B5]

B5

Please let me know the size/weight of the sample you have, and I'll send a box to collect it.

Thank you,
Jen

Jennifer Jones, DVM
Veterinary Medical Officer
Tel: [240-402-5421](tel:240-402-5421)
<[image001.png](#)> <[image003.png](#)>

From: Darcy Adin [<mailto:dbadin@ncsu.edu>]
Sent: Thursday, January 04, 2018 2:47 PM

To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>
Cc: Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>
Subject: Re: dog food concern

I also have a food sample for our current inpatient (same food - California Naturals kangaroo and lentil). [B5]

B5

On Thu, Jan 4, 2018 at 2:39 PM, Darcy Adin <dbadin@ncsu.edu> wrote:
The myocardium is from [B6] Maybe we will wait to see what the blood levels show.

B5

Thanks!
Darcy

On Thu, Jan 4, 2018 at 2:14 PM, Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov> wrote:

Thank you for the update. I'll let you know the [B5] concentration from [B6] food after the results are back.

The frozen myocardium, is it from the [B6] case?

Jennifer Jones, DVM
Veterinary Medical Officer
Tel: 240-402-5421
<image001.png> <image004.png>

From: Darcy Adin [mailto:dbadin@ncsu.edu]
Sent: Wednesday, January 03, 2018 3:10 PM
To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>
Cc: Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>
Subject: Re: dog food concern

Hi Jennifer,

Thank you! We have not tested for [B5] in any of the dogs. We have stored blood samples from several dogs and have an inpatient right now that we can submit blood from [B4] runs this). We will probably start with looking at blood samples from 2 dogs as a screening. We also have frozen myocardium from one dog - do you think this should also be evaluated?

Thank you!
Darcy

On Wed, Jan 3, 2018 at 2:30 PM, Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov> wrote:

Good afternoon Darcy,
Happy New Year! Thank you for the additional information. I discussed the information you provided below and from the previous case [B6] (Miniature Schnauzers-800.218) with my colleagues.

Based on our discussions, I will test some leftover food from the 800.218 case, for [B5] content. Have any of the dogs with DCM had blood or tissue [B5] levels tested?

Thank you kindly,
Jen

Jennifer Jones, DVM
Veterinary Medical Officer
Tel: 240-402-5421
<image001.png> <image005.png>

From: Darcy Adin [mailto:dbadin@ncsu.edu]
Sent: Wednesday, January 03, 2018 11:31 AM
To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>
Subject: dog food concern

Hi Dr. Jones,

I'm hoping that you recall our communications over the summer regarding food testing for unrelated housemate dogs that developed DCM. These dogs were eating California Naturals Kangaroo and Lentil diet and we were not able to identify a cause of the DCM, dietary or infectious or toxic.

I wanted to reach out again because we continue to see DCM in non-genetically predisposed breeds and it seems

that this diet is a relatively common theme. We have been increasingly better about recording a diet history in dogs that are presented to cardiology or ER at our hospital with DCM in the last 6 months. Most of the dogs have been tested for taurine and carnitine deficiency and have been within the reference range. About half of them are alive and half died close to the time of diagnosis.

I also searched our records for this diet (knowing that recording of diet in the MR history has been spotty at best) and found another pair of unrelated housemate dogs eating California naturals kangaroo and lentil that were diagnosed with DCM 6 months apart.

We will continue to record the cases we see but since last june we have seen 7 dogs eating California Naturals diet (5 kangaroo and lentil) in addition to the pair of housemates from 2016 (so total of 9). We also have 4 dogs eating Acana (3/4 are dobermans though) and 1 each of 4Health and Iams - so maybe these are not necessarily related.

Have you had any other reports of such an association? If you have any other thoughts or testing suggestions, I would be all ears!

Thank you!
Darcy

--

Darcy B. Adin, DVM, DACVIM (Cardiology)
Clinical Assistant Professor of Cardiology
North Carolina State University
NC State Veterinary Hospital
1060 William Moore Drive
Raleigh, NC 27607
919-513-6032

--

Darcy B. Adin, DVM, DACVIM (Cardiology)
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1060 William Moore Drive
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--

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--

Darcy B. Adin, DVM, DACVIM (Cardiology)
Clinical Assistant Professor of Cardiology
North Carolina State University
NC State Veterinary Hospital
1060 William Moore Drive
Raleigh, NC 27607
919-513-6032

From: Guag, Jake </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=E13AD3C7A7C5484C80E1D9CF9D1A15DE-JGUAG>
To: dbadin@ncsu.edu
CC: Jones, Jennifer L
Sent: 1/17/2018 2:12:36 PM
Subject: FDA (Vet-LIRN) shipped sample collection kit

Dear Dr. Adin,

We shipped a food sample collection kit to your place this morning. Its tracking number is 1ZA4420T0194648732 with UPS. It is expected to arrive on tomorrow (Jan 18, 2018).

Thank you
Jake Guag

Jake Guag, MPH , CPH
Biologist
U.S. Food & Drug Administration
Center for Veterinary Medicine
Office of Research
Vet-LIRN
8401 Muirkirk Road.
Laurel, Maryland 20708
tel: 1-240-402-0917
email: Jake.Guag@fda.hhs.gov

From: Darcy Adin <dbadin@ncsu.edu>
To: Guag, Jake
CC: Jones, Jennifer L; B6
Sent: 1/17/2018 4:12:39 PM
Subject: Re: FDA (Vet-LIRN) shipped sample collection kit

Thank you! We will be on the lookout for it.

Take care

Darcy

On Wed, Jan 17, 2018 at 9:12 AM, Guag, Jake <Jake.Guag@fda.hhs.gov> wrote:

Dear Dr. Adin,

We shipped a food sample collection kit to your place this morning. Its tracking number is 1ZA4420T0194648732 with UPS. It is expected to arrive on tomorrow (Jan 18, 2018).

Thank you

Jake Guag

Jake Guag, MPH , CPH

Biologist

U.S. Food & Drug Administration

Center for Veterinary Medicine

Office of Research

Vet-LIRN

8401 Muirkirk Road.

Laurel, Maryland 20708

tel: 1-240-402-0917

email: Jake.Guag@fda.hhs.gov

--

Darcy B. Adin, DVM, DACVIM (Cardiology)
Clinical Assistant Professor of Cardiology
North Carolina State University
NC State Veterinary Hospital
1060 William Moore Drive
Raleigh, NC 27607
919-513-6032

From: Darcy Adin <dbadin@ncsu.edu>
To: Jones, Jennifer L; B6
Sent: 1/22/2018 4:24:22 PM
Subject: Re: dog food concern

Hi Jennifer,

The boxes have both arrived today. Apparently, the other one was delivered to a different location. Since they are prepaid boxes, I am going to send some other grain free food that an owner gave us as well. These will go out later today.

So, one box will have California Naturals Kangaroo and Lentil and the other box will have Fromm Large Breed Adult Grain free - they are labeled.

Thank you so much!
Darcy

On Wed, Jan 17, 2018 at 7:00 AM, Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov> wrote:

Yes, we can resend the kit. I'll forward the tracking information.

Jennifer Jones, DVM

Veterinary Medical Officer

Tel: [240-402-5421](tel:240-402-5421)



From: Darcy Adin [<mailto:dbadin@ncsu.edu>]
Sent: Tuesday, January 16, 2018 3:09 PM
To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>

Subject: Re: dog food concern

Hi Jennifer,

Unfortunately it looks like it was delivered on thursday but we are not able to find it. Would it be possible to send another box? I am so sorry....

Thanks

Darcy

On Tue, Jan 16, 2018 at 11:27 AM, Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov> wrote:

Thank you, Darcy. Here is the tracking info:

UPS NEXT DAY AIR

TRACKING #: 1Z A44 20T 01 9190 2873

Jennifer Jones, DVM

Veterinary Medical Officer

Tel: 240-402-5421



From: Darcy Adin [mailto:dbadin@ncsu.edu]
Sent: Tuesday, January 16, 2018 11:18 AM
To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>
Subject: Re: dog food concern

Thank you Jennifer! Very interesting...

We have not received the box - do you have a tracking number that we can look into? We have had some FedEx delays both friday and today.

Thank you!

Darcy

On Fri, Jan 12, 2018 at 8:01 AM, Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov> wrote:

Thank you, Darcy!

B5

B5

I'll forward the feed results when they are back.

Have a nice weekend,

Jen

Jennifer Jones, DVM

Veterinary Medical Officer

Tel: [240-402-5421](tel:240-402-5421)



From: Darcy Adin [<mailto:dbadin@ncsu.edu>]
Sent: Wednesday, January 10, 2018 6:13 PM

To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>
Cc: Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>
Subject: Re: dog food concern

Thank you Jennifer - we will be on the lookout for it.

As additional information, one of our cardiologist colleagues in [B6] posted a question about this association today on our list serve. She has seen 4 cases of DCM in dogs eating kangaroo and lentil (I assume CN but not sure) in the last year - 2 were housemates but related.

Take care

Darcy

On Jan 10, 2018, at 8:05 AM, Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov> wrote:

Thank you, Darcy. We're sending the kit this week. It should arrive by close of business Friday.

Jennifer Jones, DVM

Veterinary Medical Officer

Tel: [240-402-5421](tel:240-402-5421)

<[image001.png](#)> <[image006.png](#)>

From: Darcy Adin [<mailto:dbadin@ncsu.edu>]
Sent: Tuesday, January 09, 2018 11:27 AM
To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>
Cc: Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>
Subject: Re: dog food concern

Hi Jennifer,

That is great! I've attached a picture of the food sample - the weight is 0.36 kg. We sent blood samples off from 2 dogs to test for **B5** one was in the reference range and the other a bit high.

Thank you!

Take care

Darcy

On Tue, Jan 9, 2018 at 10:07 AM, Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov> wrote:

Good morning Darcy,

We'd like to collect some of the food from your current case (California Naturals Kangaroo). I'm going to send it with the archived sample of food from the **B6** case **B5**

B5

Please let me know the size/weight of the sample you have, and I'll send a box to collect it.

Thank you,
Jen

Jennifer Jones, DVM

Veterinary Medical Officer

Tel: [240-402-5421](tel:240-402-5421)

<[image001.png](#)> <[image003.png](#)>

From: Darcy Adin [mailto:dbadin@ncsu.edu]

Sent: Thursday, January 04, 2018 2:47 PM

To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>

Cc: Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>

Subject: Re: dog food concern

I also have a food sample for our current inpatient (same food - California Naturals kangaroo and lentil). **B5**

B5

On Thu, Jan 4, 2018 at 2:39 PM, Darcy Adin <dbadin@ncsu.edu> wrote:

The myocardium is from **B6** Maybe we will wait to see what the blood levels show.

B5

Thanks!

Darcy

On Thu, Jan 4, 2018 at 2:14 PM, Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov> wrote:

Thank you for the update. I'll let you know the **B5** concentration from **B6** is food after the results are back.

The frozen myocardium, is it from the **B6** case?

Jennifer Jones, DVM

Veterinary Medical Officer

Tel: [240-402-5421](tel:240-402-5421)

[<image001.png>](#) [<image004.png>](#)

From: Darcy Adin [<mailto:dbadin@ncsu.edu>]

Sent: Wednesday, January 03, 2018 3:10 PM

To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>

Cc: Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>

Subject: Re: dog food concern

Hi Jennifer,

Thank you! We have not tested for [B5] in any of the dogs. We have stored blood samples from several dogs and have an inpatient right now that we can submit blood from [B4] runs this). We will probably start with looking at blood samples from 2 dogs as a screening. We also have frozen myocardium from one dog - do you think this should also be evaluated?

Thank you!

Darcy

On Wed, Jan 3, 2018 at 2:30 PM, Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov> wrote:

Good afternoon Darcy,

Happy New Year! Thank you for the additional information. I discussed the information you provided below and from the previous case [B6] Miniature Schnauzers-800.218) with my colleagues.

Based on our discussions, I will test some leftover food from the 800.218 case, for [B5] content. Have any of the dogs with DCM had blood or tissue [B5] levels tested?

Thank you kindly,

Jen

Jennifer Jones, DVM

Veterinary Medical Officer

Tel: [240-402-5421](tel:240-402-5421)

<[image001.png](#)> <[image005.png](#)>

From: Darcy Adin [<mailto:dbadin@ncsu.edu>]
Sent: Wednesday, January 03, 2018 11:31 AM
To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>
Subject: dog food concern

Hi Dr. Jones,

I'm hoping that you recall our communications over the summer regarding food testing for unrelated housemate

dogs that developed DCM. These dogs were eating California Naturals Kangaroo and Lentil diet and we were not able to identify a cause of the DCM, dietary or infectious or toxic.

I wanted to reach out again because we continue to see DCM in non-genetically predisposed breeds and it seems that this diet is a relatively common theme. We have been increasingly better about recording a diet history in dogs that are presented to cardiology or ER at our hospital with DCM in the last 6 months. Most of the dogs have been tested for taurine and carnitine deficiency and have been within the reference range. About half of them are alive and half died close to the time of diagnosis.

I also searched our records for this diet (knowing that recording of diet in the MR history has been spotty at best) and found another pair of unrelated housemate dogs eating California naturals kangaroo and lentil that were diagnosed with DCM 6 months apart.

We will continue to record the cases we see but since last june we have seen 7 dogs eating California Naturals diet (5 kangaroo and lentil) in addition to the pair of housemates from 2016 (so total of 9). We also have 4 dogs eating Acana (3/4 are dobermans though) and 1 each of 4Health and Iams - so maybe these are not necessarily related.

Have you had any other reports of such an association? If you have any other thoughts or testing suggestions, I would be all ears!

Thank you!

Darcy

--

Darcy B. Adin, DVM, DACVIM (Cardiology)

Clinical Assistant Professor of Cardiology

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1060 William Moore Drive

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North Carolina State University

NC State Veterinary Hospital

1060 William Moore Drive

Raleigh, NC 27607

919-513-6032

From: Darcy Adin <dbadin@ncsu.edu>
To: Jones, Jennifer L
CC: Ceric, Olgica; Nemser, Sarah
Sent: 1/23/2018 6:53:11 PM
Subject: Re: dog food concern

Thanks for chatting today Jennifer!

B5

B5

Do you have access to sales estimates for Grain free diets and California natural diets in particular? I am not able to find this on the web. All I can say is that CN does not come up as one of the "top" diets on websites that discuss Grain free benefits.

Thank you!
Darcy

On Tue, Jan 23, 2018 at 8:49 AM, Darcy Adin <dbadin@ncsu.edu> wrote:
Hi Jennifer,

I wondered if I could speak with you sometime today about the diets and some data we have compiled? My office is 919-513-6032 and my cell is **B6** Alternatively, we could email - just let me know!

Take care
Darcy

On Fri, Jan 12, 2018 at 8:01 AM, Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov> wrote:

Thank you, Darcy.

B5

B5

I'll forward the feed results when they are back.

Have a nice weekend,

Jen

Jennifer Jones, DVM

Veterinary Medical Officer

Tel: [240-402-5421](tel:240-402-5421)



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As additional information, one of our cardiologist colleagues in B6 posted a question about this association today on our list serve. She has seen 4 cases of DCM in dogs eating kangaroo and lentil (I assume CN but not sure) in the last year - 2 were housemates but related.

Take care

Darcy

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Thank you, Darcy. We're sending the kit this week. It should arrive by close of business Friday.

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Subject: Re: dog food concern

Hi Jennifer,

That is great! I've attached a picture of the food sample - the weight is 0.36 kg. We sent blood samples off from 2 dogs to test for [redacted B5] one was in the reference range and the other a bit high.

Thank you!

Take care

Darcy

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Good morning Darcy,

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B5

Please let me know the size/weight of the sample you have, and I'll send a box to collect it.

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Jennifer Jones, DVM

Veterinary Medical Officer

Tel: [240-402-5421](tel:240-402-5421)

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B5

B5

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Jennifer Jones, DVM

Veterinary Medical Officer

Tel: [240-402-5421](tel:240-402-5421)

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Thank you kindly,

Jen

Jennifer Jones, DVM

Veterinary Medical Officer

Tel: [240-402-5421](tel:240-402-5421)

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Clinical Assistant Professor of Cardiology

North Carolina State University

NC State Veterinary Hospital

1060 William Moore Drive

Raleigh, NC 27607
919-513-6032

From: Jones, Jennifer L </o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0f6ca12eaa9348959a4cbb1e829af244-Jennifer.Jo>
To: Rotstein, David; Palmer, Lee Anne; Queen, Jackie L; Carey, Lauren
CC: Ceric, Olgica; Nemser, Sarah; Reimschuessel, Renate
Sent: 1/23/2018 6:59:39 PM
Subject: RE: 800.218-Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers-EON-323515-323519
Attachments: Re: dog food concern

B5

Jennifer Jones, DVM
Veterinary Medical Officer
Tel: 240-402-5421



From: Jones, Jennifer L
Sent: Thursday, January 11, 2018 9:36 AM
To: Rotstein, David <David.Rotstein@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Queen, Jackie L <Jackie.Queen@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>
Cc: Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>; Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>
Subject: RE: 800.218-Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers-EON-323515-323519

FYI-

JJ-Vet emailed-“ As additional information, one of our cardiologist colleagues in [B6] posted a question about this association today on our list serve. She has seen 4 cases of DCM in dogs eating kangaroo and lentil (I assume CN but not sure) in the last year - 2 were housemates but related.”

Jennifer Jones, DVM
Veterinary Medical Officer
Tel: 240-402-5421



From: Jones, Jennifer L
Sent: Wednesday, January 03, 2018 2:32 PM
To: Rotstein, David <David.Rotstein@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Queen, Jackie L <Jackie.Queen@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>
Cc: Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>; Nemser, Sarah <Sarah.Nemser@fda.hhs.gov>; 'Reimschuessel, Renate (Renate.Reimschuessel@fda.hhs.gov)' <Renate.Reimschuessel@fda.hhs.gov>
Subject: RE: 800.218-Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers-EON-323515-323519

Going to test the leftover food for [B5] based on our discussion during the PFO meeting today. I asked the vet if any dogs tested (blood/tissue) for [B5]

Jennifer Jones, DVM
Veterinary Medical Officer

Tel: 240-402-5421



From: Rotstein, David

Sent: Tuesday, August 22, 2017 8:39 AM

To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>; Queen, Jackie L <Jackie.Queen@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>

Cc: Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>

Subject: RE: 800.218-Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers-EON-323515-323519

Agreed. Thanks Jen

David Rotstein, DVM, MPVM, Dipl. ACVP
CVM Vet-LIRN Liaison
CVM OSC/DC/CERT
7519 Standish Place
240-506-6763 (BB)



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From: Jones, Jennifer L

Sent: Tuesday, August 22, 2017 8:37 AM

To: Rotstein, David; Palmer, Lee Anne; Reimschuessel, Renate; Queen, Jackie L; Carey, Lauren

Cc: Ceric, Olgica

Subject: RE: 800.218-Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers-EON-323515-323519

BLUF: **Final Conclusion:** The cause of the two dogs' DCM is unclear. The bloodwork for these dogs showed normal taurine and **B5** levels. Based on the dogs' blood taurine **B5** levels and the dry dog food test results, it is unlikely that **B5** taurine, or **B5** caused the dogs' illness.

B5

B5

Final Conclusion: The cause of the two dogs' DCM is unclear. The bloodwork for these dogs showed normal taurine and [B5] levels. Based on the dogs' blood taurine [B5] levels and the dry dog food test results, it is unlikely that [B5] taurine, or [B5] caused the dogs' illness.

Jennifer Jones, DVM
Veterinary Medical Officer



From: Jones, Jennifer L
Sent: Monday, August 07, 2017 7:02 AM
To: Rotstein, David; Palmer, Lee Anne; Reimschuessel, Renate; Queen, Jackie L; Carey, Lauren
Cc: Ceric, Olgica
Subject: RE: 800.218-Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers-EON-323515-323519

FYI-Taurine/[B5] still pending, but [B5] negative.

Jennifer Jones, DVM
Veterinary Medical Officer



From: Jones, Jennifer L
Sent: Thursday, July 27, 2017 7:25 AM
To: Rotstein, David; Palmer, Lee Anne; Reimschuessel, Renate; Queen, Jackie L; Carey, Lauren
Cc: Ceric, Olgica
Subject: RE: Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers-EON-323515-323519

We received the food and plan to test for [B5]. The vet also mentioned two items of interest:

1. She's treated 2 other dogs in last 2 weeks with DCM/CHF and being fed California Natural food. That brings us to 4 DCM dogs recently eating this food.

a. We can consider taurine and other types of testing?

B5

Thoughts from the group?

Jennifer Jones, DVM
Veterinary Medical Officer



From: Jones, Jennifer L
Sent: Tuesday, July 18, 2017 8:18 AM
To: Rotstein, David; Palmer, Lee Anne; Reimschuessel, Renate; Queen, Jackie L; Carey, Lauren
Cc: Ceric, Olgica
Subject: RE: Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers-EON-323515-323519

Ok, thanks, Dave. I'll check with the vet if:

B5

Jennifer Jones, DVM
Veterinary Medical Officer



From: Rotstein, David
Sent: Thursday, July 13, 2017 2:54 PM
To: Jones, Jennifer L; Palmer, Lee Anne; Reimschuessel, Renate; Queen, Jackie L; Carey, Lauren
Cc: Ceric, Olgica
Subject: RE: Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers-EON-323515-323519

I think testing is worth pursuing. Oddball question, but

B5

I was thinking of the

B5

and was thinking of

B5

This would highly unlikely, but wanted to put it out there.

David Rotstein, DVM, MPVM, Dipl.ACVP
CVM Vet-LIRN Liaison
CVM OSC/DC/CERT
7519 Standish Place
240-506-6763 (BB)

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From: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>

Date: July 13, 2017 at 2:44:24 PM EDT

To: Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>, Rotstein, David <David.Rotstein@fda.hhs.gov>, Reimschuessel, Renate <Renate.Reimschuessel@fda.hhs.gov>, Queen, Jackie L <Jackie.Queen@fda.hhs.gov>, Carey, Lauren <Lauren.Carey@fda.hhs.gov>

Cc: Ceric, Olgica <Olgica.Ceric@fda.hhs.gov>

Subject: RE: Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers-EON-323515-323519

We could test for **B5** in food, what does the group think? Any additional testing? Is it worth testing the **B5**?

Medical Record Review:

B6

Presenting complaint

B6

B6

PE

B6

B6

Labwork:

B6

B6

B6

Rads B6 concern for aspiration pneumonia

B6 cardiomegaly, severe diffuse mixed interstitial to alveolar pattern most severe caudo-dorsally, hepatomegaly, dec abdominal serosal contrast

B6 severe generalized cardiomegaly with biventricular heart failure, improved vs rDVM rads
worsening cardiogenic pulmonary edema, cannot exclude lung induced injury +/- pneumonia

B6 post ultrafiltration, improved cardiogenic edema, hypovolemia, residual interstitial to patchy alveolar

B6 improved CHF with possible concern for bronchopneumonia, suspected hiatal hernia
markedly progressive alveolar pattern with significantly worse cardiogenic edema

tFAST B6 severe cardiomegaly with ventricular hypocontractility

Echo B6 dcm vs. myocarditis vs pacing induce vs. other (severely dilated & hypocontractile left & right ventricles, severely dilated left and right atria)

Necropsy: Lung-severe diffuse alveolar injury with marked fibrin deposition (hyaline) and marked alveolar histiocytosis and multifocal type II pneumocyte hyperplasia; mod to marked diffuse pulmonary edema; mild cardiomegaly with mild mitral valve endocardiosis and mild left ventricular hypertrophy and left atrial dilation; thorax with mild pleural effusion; Suspect primary non-cardiogenic etiology but if clinical cardiac dysfunction then functional cardiac abnormalities cannot be ruled out

Prior MHx B6
B6

B6

Presented B6

B6

B6

Labs:

B6

ECG: left ventricular enlargement suggested

B6

Rads: left sided congestive heart failure

B6 **B6** moderate left sided cardiomegaly without heart failure, moderate hepatomegaly

Echo: mitral valve endocardiosis with left atrial enlargement and heart failure, decreased left ventricular systolic function, suspected DCM

B5

Jennifer Jones, DVM
Veterinary Medical Officer



From: Rotstein, David

Sent: Tuesday, July 11, 2017 12:44 PM

To: Jones, Jennifer L; Reimschuessel, Renate; Palmer, Lee Anne; Carey, Lauren; Queen, Jackie L

Cc: Ceric, Olgica

Subject: RE: Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers

Jen,

B5

so I don't think that could be ruled out.

I do like the exploration of other causes.

d.

David Rotstein, DVM, MPVM, Dipl. ACVP

CVM Vet-LIRN Liaison

CVM OSC/DC/CERT

7519 Standish Place, RM 120

240-402-5613 (Office) (NEW NUMBER)

240-506-6763 (BB)



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From: Jones, Jennifer L

Sent: Tuesday, July 11, 2017 12:41 PM

To: Reimschuessel, Renate; Rotstein, David; Palmer, Lee Anne; Carey, Lauren; Queen, Jackie L

Cc: Ceric, Olgica

Subject: RE: Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers

Yes, and also, vet talked to MARS who said there was no corn in this food... but that doesn't rule out treats.

I'm not sure with normal: **B5** and taurine levels if we should suspect issues with those as well.

B5

B5

Jennifer Jones, DVM

Veterinary Medical Officer



From: Reimschuessel, Renate

Sent: Tuesday, July 11, 2017 11:51 AM

To: Jones, Jennifer L; Rotstein, David; Palmer, Lee Anne; Carey, Lauren; Queen, Jackie L
Cc: Ceric, Olgica
Subject: RE: Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers

Davis may be able to screen fo: B5

Renate Reimschuessel V.M.D. Ph.D. Vet-LIRN

Phone 1- 240-402-5404

Fax 301-210-4685

<http://www.fda.gov/AnimalVeterinary/ScienceResearch/ucm247334.htm>

From: Jones, Jennifer L
Sent: Tuesday, July 11, 2017 11:38 AM
To: Rotstein, David; Palmer, Lee Anne; Carey, Lauren; Queen, Jackie L
Cc: Ceric, Olgica; Reimschuessel, Renate
Subject: Head's up-potential DCM case-Dr. Adin-NCSU-2 Schnauzers

Vet will submit PFR online à
2 dogs-unrelated miniature schnauzers

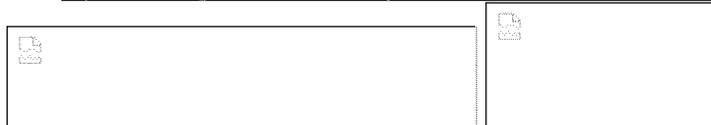
Dog 1: 2 yr à presented 2/2017 with fulminant CHFà severe DCM on echo, taurine/carnitine normal, infectious disease testing negative, died on the ventilator, necropsy done-myocardial changes were subtle but could be similar to moldy corn toxicity in pigsà plasma, urine, serum, and myocardial tissue available

Dog 2: 7 yr, had a syncopal episode ~2/2017 but presented to vet for progressive frequency of syncopal episodesà 6/2017 for CHF, diagnosed with DCM similar to housemate, nearly same image on Echo, taurine/carnitine normal, infectious disease testing negative, they have changed the diet (Hill's) and dog is responding to treatment; plasma, urine, and serum available

Dogs were eating California Naturals (different bag than from 2/2017) and treats (Milo's Kitchen); Vet has samples of food and treats

Jennifer L. A. Jones, DVM

Veterinary Medical Officer
U.S. Food & Drug Administration
Center for Veterinary Medicine
Office of Research
Veterinary Laboratory Investigation and Response Network (Vet-LIRN)
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Web: <http://www.fda.gov/AnimalVeterinary/ScienceResearch/ucm247334.htm>



Discharge Instructions

Patient

Name: B6

Species: Canine

Brown/White Female (Spayed) English

Bulldog

Birthdate: B6

Owner

Name: B6

Address: B6

Patient ID: B6

Attending Cardiologist: John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

Cardiology Resident:

B6

Cardiology Technician:

B6

Student: B6 V20

Date: B6

Diagnoses: Dilated cardiomyopathy (DCM); history of active congestive heart failure**Clinical Findings:**

Thank you for bringing B6 in today for a three month recheck as a part of the DCM study. B6 has been doing well at home and has had good energy, though she has been slightly stubborn about taking her medications.

During B6 appointment today, we performed a recheck echocardiogram (ultrasound of the heart). B6 still has significant structural and functional changes to her heart, but these changes do not appear to have worsened since her last echocardiogram in January. We also assessed B6 heart rhythm using electrocardiogram (EKG) and did not see any cardiac arrhythmias. We drew blood samples from B6 as part of the DCM study, and her kidney values are still perfect. We would therefore like to increase her enalapril to twice daily (see below). B6 is also on a relatively conservative dose of furosemide, so you should have no hesitation to give an extra dose if needed for increased breathing rate or effort.

Monitoring at Home:

- Please continue to monitor B6 breathing rate and effort at home, ideally during sleep or at a time of rest. The doses of drugs will be adjusted based on the breathing rate and effort.
- In general, most dogs with heart failure that is well controlled have a breathing rate at rest of less than 35 to 40 breaths per minute. In addition, the breathing effort, noted by the amount of belly wall motion used for each breath, is fairly minimal if heart failure is controlled.
- An increase in breathing rate or effort will usually mean that you should give an extra dose of B6. If difficulty breathing is not improved by within 30-60 minutes after giving extra B6 then we recommend that a recheck exam be scheduled and/or that your dog be evaluated by an emergency clinic.

- We also want you to watch for weakness or collapse, a reduction in appetite, worsening cough, or distention of the belly as these findings indicate that we should do a recheck examination.
- If you have any concerns, please call or have your dog evaluated by a veterinarian. Our emergency clinic is open 24 hours/day.

Diet Suggestions:

Please continue to feed B6 the Royal Canin Cardiac diet.

Exercise Recommendations:

B6 may continue her normal exercise routine at home.

Recommended Medications:

B6

Recheck Visits: We would like to see B6 for a recheck appointment in 3 months. At this visit we will want to check breathing effort and heart function, do a blood test for the study, and recheck an echocardiogram. B6 will contact you to schedule this appointment.

Thank you for entrusting us with B6 care. She is such a sweet girl! Please contact our Cardiology liaison at (508)-887-4696 or email us at cardiovet@tufts.edu for scheduling and non-emergent questions or concerns.

Please visit our HeartSmart website for more information

<http://vet.tufts.edu/heartsmart/>

Prescription Refill Disclaimer:

For the safety and well-being of our patients, your pet must have had an examination by one of our veterinarians within the past year in order to obtain prescription medications.

Ordering Food:

Please check with your primary veterinarian to purchase the recommended diet(s). If you wish to purchase your food from us, please call 7-10 days in advance (508-887-4629) to ensure the food is in stock. Alternatively, veterinary diets can be ordered from online retailers with a prescription/veterinary approval.

Clinical Trials:

Clinical trials are studies in which our veterinary doctors work with you and your pet to investigate a specific disease process or a promising new test or treatment. Please see our website: vet.tufts.edu/cvmc/clinical-studies

Case B6

Owner B6

Discharge Instructions

B6

Patient ID: B6

B6
Canine
years Old Female (Spayed) English Bulldog
Brown/White

Cardiology Appointment Report
ENROLLED IN DCM DIET STUDY

Date: B6

Attending Cardiologist:

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

Cardiology Resident:

B6

Cardiology Technician:

B6

Student: B6, V20; B6, V20

Presenting Complaint: 3 month recheck DCM study, history of DCM and CHF

Concurrent Diseases:

None

General Medical History:

CHF diagnosed 1/16/19, BNP B6 O reports good energy at home, but slightly decreased appetite.
Can be difficult to medicate. Was previously on grain-free diet.

Diet and Supplements:

NOW Taurine 500mg BID
RC early cardiac diet

Cardiovascular History:

Prior CHF diagnosis? yes
Prior heart murmur? n
Prior ATE? n
Prior arrhythmia? n
Monitoring respiratory rate and effort at home? y- usually in the 30s
Cough? n
Shortness of breath or difficulty breathing? y (one day)

Syncope or collapse? n
Sudden onset lameness? n
Exercise intolerance? n

Current Medications Pertinent to CV System:

B6

Muscle condition:

- Normal
- Mild muscle loss
- Moderate cachexia
- Marked cachexia

Cardiovascular Physical Exam:

Murmur Grade:

- None/difficult to auscult
- I/V
- II/V
- III/V
- IV/V
- V/V
- VI/V

Jugular vein:

- Bottom 1/3 of the neck
- Middle 1/3 of the neck
- 1/2 way up the neck
- Top 2/3 of the neck

Arterial pulses:

- Weak
- Fair
- Good
- Strong
- Bounding
- Pulse deficits
- Pulsus paradoxus
- Other:

Arrhythmia:

- None
- Bradycardia

- Sinus arrhythmia
- Premature beats

- Tachycardia

Gallop:

- Yes
- No
- Intermittent

- Pronounced
- Other:

Pulmonary assessments:

- Eupneic
- Mild dyspnea
- Marked dyspnea
- Normal BV sounds

- Pulmonary crackles
- Wheezes
- Upper airway stridor

Abdominal exam:

- Normal
- Hepatomegaly
- Abdominal distension

- Mild ascites
- Marked ascites

Problems:

Suspected DCM based on previous echo findings

Differential Diagnoses:

DCM - diet-associated vs. primary

Diagnostic plan:

- Echocardiogram
- Chemistry profile
- ECG
- Renal profile
- Blood pressure

- Dialysis profile
- Thoracic radiographs
- NT-proBNP
- Troponin I
- Other tests: bloodwork for study

Echocardiogram Findings:

B6

Assessment and recommendations:

Patient has been doing well at home, but echocardiogram still reveals significant structural and functional changes to her heart. Measurements are stable overall. If renal values are stable then recommend

increasing enalapril to BID. Continue other cardiac medications at current doses. **B6** dose is relatively low so owners were instructed to have no hesitation to give extra doses as necessary and let us know. Recheck in 3 months for blood work/echo/DCM study, or sooner if clinical signs occur such as increased RR/RE, cough, collapse, or exercise intolerance.

Final Diagnosis:

DCM; history of L-CHF

Heart Failure Classification Score:

ISACHC Classification:

- Ia
- Ib
- II
- IIIa
- IIIb

ACVIM Classification:

- A
- B1
- B2
- C
- D

M-Mode

IVSd	B6	cm
LVIDd		cm
LVPWd		cm
IVSs		cm
LVIDs		cm
LVPWs		cm
EDV(Teich)		ml
ESV(Teich)		ml
EF(Teich)		%
%FS		%
SV(Teich)		ml
Max LA		cm
Ao Diam		cm
LA Diam		cm
LA/Ao		
TAPSE		cm
EPSS	cm	

M-Mode Normalized

IVSdN	B6	{0.290 - 0.520}
LVIDdN		{1.350 - 1.730} !
LVPWdN		{0.330 - 0.530}
IVSsN		{0.430 - 0.710} !
LVIDsN		{0.790 - 1.140} !
LVPWsN	{0.530 - 0.780}	

2D

SA LA	B6	cm
Ao Diam		cm

SA LA / Ao Diam
IVSd
LVIDd
LVPWd
EDV(Teich)
IVSs
LVIDs
LVPWs
ESV(Teich)
EF(Teich)
%FS
SV(Teich)

B6

cm
cm
cm
ml
cm
cm
cm
ml
%
%
ml

Doppler

MR Vmax
MR maxPG
MVE Vel
MV DecT
MV Dec Slope
MVA Vel
MVE/A Ratio
E'
E/E'
A'
AV Vmax
AV maxPG
PV Vmax
PV maxPG

B6

m/s
mmHg
m/s
ms
m/s
m/s

m/s

m/s
m/s
mmHg
m/s
mmHg

From: EON Admin <eoncvmlabsamples@fda.hhs.gov>
To: Queen, Jackie L; Carey, Lauren; Rotstein, David; Palmer, Lee Anne
Sent: 3/27/2019 3:00:26 AM
Subject: Consumer Complaint Record Created in EON IMS (EON-383456)
Attachments: EON-383456-ConsumerComplaint-Report.pdf

B6

The ORA Reporting Database was polled and the following Consumer Complaint record was inserted into the Emergency Operations Network Incident Management System (EON IMS).

EON Key: EON-383456

Complaint Number: 156879

Brand Name: Zignature

Product Name: Turkey Blend Grain Free

From: PFR Event <pfpreventcreation@fda.hhs.gov>
To: Cleary, Michael *; HQ Pet Food Report Notification; [B6]
Sent: 3/26/2019 2:44:44 PM
Subject: Rachel Ray's Chicken and Veggies: [B6] EON-383378
Attachments: 2064635-report.pdf; 2064635-attachments.zip

A PFR Report has been received and PFR Event [EON-383378] has been created in the EON System.

A "PDF" report by name "2064635-report.pdf" is attached to this email notification for your reference. Please note that all documents received in the report are compressed into a zip file by name "2064635-attachments.zip" and is attached to this email notification.

Below is the summary of the report:

EON Key: EON-383378

ICSR #: 2064635

EON Title: PFR Event created for Rachel Ray's Chicken and Veggies; 2064635

AE Date	11/14/2018	Number Fed/Exposed	1
Best By Date		Number Reacted	1
Animal Species	Dog	Outcome to Date	Better/Improved/Recovering
Breed	Retriever - Labrador		
Age	2 Years		
District Involved	PFR-Baltimore DO		

Product information

Individual Case Safety Report Number: 2064635

Product Group: Pet Food

Product Name: Rachel Ray's Chicken and Veggies

Description: On 11/14/2018, presented to pcDVM for on/off limping with unknown trauma and cardiomegaly was identified on the subsequent radiographs, as well as muffled heart sounds on auscultation; a cardiac consultation was recommended. At consult, a Grade V/VI heart murmur was ausculted with significantly muffled heart sounds on the left. She was diagnosed with severe tricuspid valve dysplasia, severe tricuspid insufficiency, severe right heart volume load, severe enlargement of the caudal vena cava and hepatic veins, and dilated, thin-walled, hypocontractile left ventricle consistent with left-sided DCM. An ECG showed sinus rhythm

conducted with first-degree AV block, and a Holter monitor was performed (normal). She was started on **B6** (following a Taurine level being drawn).

Submission Type: Initial

Report Type: Adverse Event (a symptom, reaction or disease associated with the product)

Outcome of reaction/event at the time of last observation: Better/Improved/Recovering

Number of Animals Treated With Product: 1

Number of Animals Reacted With Product: 1

Product Name	Lot Number or ID	Best By Date
Rachel Ray's Chicken and Veggies		

Sender information

B6

USA

Owner information

B6

To view this PFR Event, please click the link below:

<https://eon.fda.gov/eon/browse/EON-383378>

To view the PFR Event Report, please click the link below:

<https://eon.fda.gov/eon/EventCustomDetailsAction!viewReport.jspx?decorator=none&e=0&issueType=12&issueId=400476>

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From: [REDACTED] **B5, B6**
To: Jones, Jennifer L
Sent: 7/6/2018 4:54:55 PM
Subject: Suspected diet related DCM case logs
Attachments: Dilated cardiomyopathy cases 2017.xlsx

Dr. Jones,

Please find attached the current case log for suspected diet related DCM cases. Let me know if you have any questions.

B5, B6

From: B5, B6
To: Jones, Jennifer L
Sent: 5/18/2018 5:25:41 PM
Subject: DCM and Diet spreadsheet
Attachments: Diet Breakdown by Brand.xlsx