

Report Details - EON-388254

ICSR:	2067175		
Type Of Submission:	Initial		
Report Version:	FPSR.FDA.PETF.V.V1		
Type Of Report:	Adverse Event (a symptom, reaction or disease associated with the product)		
Reporting Type:	Voluntary		
Report Submission Date:	2019-05-20 10:56:29 EDT		
Reported Problem:	Problem Description:	Patient presented to the UF Cardiology Service after roughly two weeks of coughing. When coughing initially started, patient was seen by primary care veterinarian and was treated with Diphenoxylate Atropine, Hydroxyzine, Amoxicillin, and Vetprofen. On 2/19/19, B6 presented to his primary care veterinarian again. He had cyanotic mucous membranes, an enlarged heart, and pulmonary edema. Patient was referred to UF and was diagnosed with Dilated Cardiomyopathy.	
	Date Problem Started:	02/20/2019	
	Concurrent Medical Problem:	Yes	
	Pre Existing Conditions:	Patient was diagnosed with reactive seizures two years ago and was started on Phenobarbital (60mg q12) at that time. Patient also receives Spring Valley Fish, Flax, and Borage Oil once daily and Good Morning Healthy Joints twice daily.	
	Outcome to Date:	Stable	
Product Information:	Product Name:	Good Morning Healthy Joints	
	Product Type:	Other	
	Lot Number:		
	Product Use Information:	Description:	supplement given twice daily
	Manufacturer /Distributor Information:		
	Purchase Location Information:		
	Product Name:	Spring Valley Fish, Flax, and Borage Oil	
	Product Type:	Other	
	Lot Number:		
	Product Use Information:	Description:	supplement given once daily
	Manufacturer /Distributor Information:		
	Purchase Location Information:		
	Product Name:	Milkbone peanut flavor dry mini treats	
	Product Type:	Pet Food	
	Lot Number:		
	Product Use Information:	Description:	used as treats
		First Exposure Date:	01/01/2012
		Other Foods or Products Given to the Animal During This Time Period:	Yes
	Manufacturer /Distributor Information:		
	Purchase Location Information:		
	Product Name:	4Health Salmon and Potato canned	

	Product Type: Pet Food		
	Lot Number:		
	Product Use Information:	Description:	1 TPSP fed twice per day
		First Exposure Date:	01/01/2016
		Last Exposure Date:	02/20/2019
		Time Interval between Product Use and Adverse Event:	3 Years
		Product Use Stopped After the Onset of the Adverse Event:	Yes
		Adverse Event Abate After Product Stop:	Unknown
		Product Use Started Again:	No
		Perceived Relatedness to Adverse Event:	Possibly related
		Other Foods or Products Given to the Animal During This Time Period:	Yes
	Manufacturer /Distributor Information:		
	Purchase Location Information:		
	Product Name:	Pure Balance Salmon and Potato dry	
	Product Type: Pet Food		
	Lot Number:		
	Product Use Information:	Description:	1 cup dry food fed twice per day
		First Exposure Date:	01/01/2016
		Last Exposure Date:	02/20/2019
Time Interval between Product Use and Adverse Event:		3 Years	
Product Use Stopped After the Onset of the Adverse Event:		Yes	
Adverse Event Abate After Product Stop:		Unknown	
Product Use Started Again:		No	
Perceived Relatedness to Adverse Event:		Possibly related	
Other Foods or Products Given		Yes	

		to the Animal During This Time Period:	
	Manufacturer /Distributor Information:		
	Purchase Location Information:		
Animal Information:	Name:	B6	
	Type Of Species:	Dog	
	Type Of Breed:	Cattle Dog - Australian (blue heeler, red heeler, Queensland cattledog)	
	Gender:	Male	
	Reproductive Status:	Neutered	
	Weight:	24 Kilogram	
	Age:	10 Years	
	Assessment of Prior Health:	Fair	
	Number of Animals Given the Product:	1	
	Number of Animals Reacted:	1	
	Owner Information:	Owner Information provided:	No
	Healthcare Professional Information:	Practice Name:	University of Florida
		Contact:	Name: Darcy Adin Phone: (614) 582-9798 Other Phone: 3522948606 Email: adind@ufl.edu
		Address:	2015 SW 16th Ave 2015 SW 16th Avenue Gainesville Florida 32608 United States
Sender Information:	Name:	Darcy Adin	
	Address:	2015 SW 16th Ave 2015 SW 16th Avenue Gainesville Florida 32608 United States	
	Contact:	Phone:	6145829798
		Other Phone:	3522948606
		Email:	adind@ufl.edu
	Permission To Contact Sender:	Yes	
	Preferred Method Of Contact:	Email	
	Reported to Other Parties:	None	
Additional Documents:			

Report Details - EON-388244

ICSR:	2067171																																																																																
Type Of Submission:	Initial																																																																																
Report Version:	FPSR.FDA.PETF.V.V1																																																																																
Type Of Report:	Adverse Event (a symptom, reaction or disease associated with the product)																																																																																
Reporting Type:	Voluntary																																																																																
Report Submission Date:	2019-05-20 10:49:42 EDT																																																																																
Reported Problem:	<table><tr><td>Problem Description:</td><td colspan="2">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.</td></tr><tr><td>Date Problem Started:</td><td colspan="2">03/19/2019</td></tr><tr><td>Concurrent Medical Problem:</td><td colspan="2">Yes</td></tr><tr><td>Pre Existing Conditions:</td><td colspan="2">History of dermatologic skin issues, but no other relevant medical history. Patient is on Heartgard and Seresto collar as preventatives.</td></tr><tr><td>Outcome to Date:</td><td colspan="2">Stable</td></tr></table>			Problem 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.		Date Problem Started:	03/19/2019		Concurrent Medical Problem:	Yes		Pre Existing Conditions:	History of dermatologic skin issues, but no other relevant medical history. Patient is on Heartgard and Seresto collar as preventatives.		Outcome to Date:	Stable																																																																
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		Date:	
	Manufacturer /Distributor Information:		
	Purchase Location Information:		
	Product Name:	Taste of the Wild Pacific Salmon Grain Free	
	Product Type:	Pet Food	
	Lot Number:		
	Product Use Information:	Description:	2 cups fed once per day
		First Exposure Date:	01/01/2017
		Last Exposure Date:	03/19/2019
		Time Interval between Product Use and Adverse Event:	2 Years
		Product Use Stopped After the Onset of the Adverse Event:	Yes
		Adverse Event Abate After Product Stop:	Unknown
		Product Use Started Again:	No
		Perceived Relatedness to Adverse Event:	Possibly related
		Other Foods or Products Given to the Animal During This Time Period:	Yes
	Manufacturer /Distributor Information:		
	Purchase Location Information:		
Animal Information:	Name:	B6	
	Type Of Species:	Dog	
	Type Of Breed:	American Pit Bull Terrier	
	Gender:	Male	
	Reproductive Status:	Neutered	
	Weight:	35.9 Kilogram	
	Age:	7.5 Years	
	Assessment of Prior Health:	Good	
	Number of Animals Given the Product:	1	
	Number of Animals Reacted:	1	
	Owner Information:	Owner Information provided:	No
	Healthcare Professional Information:	Practice Name:	University of Florida
		Contact Name:	Darcy Adin

			Phone: (614) 582-9798
			Other Phone: 3522948606
			Email: adind@ufl.edu
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	Contact:	Phone:	6145829798
		Other Phone:	3522948606
		Email:	adind@ufl.edu
	Permission To Contact Sender:	Yes	
	Preferred Method Of Contact:	Email	
	Reported to Other Parties:	None	
Additional Documents:			

Report Details - EON-351034													
ICSR:	2045680												
Type Of Submission:	Initial												
Report Version:	FPSR.FDA.PETF.V.V1												
Type Of Report:	Adverse Event (a symptom, reaction or disease associated with the product)												
Reporting Type:	Voluntary												
Report Submission Date:	2018-04-12 13:51:10 EDT												
Reported Problem:	<p>Problem Description: B6 was diagnosed with dilated cardiomyopathy and left sided congestive heart failure by the cardiology service at B6 8/4/2016. Her disease has been stable. Due to reports of DCM related to taurine deficiency on grain free diets, a whole blood taurine level was submitted on 3/2/2018 by the cardiology service. Whole blood taurine was 57 (ref range 200-350, critical <150). owner was advised to stop current diet and start taurine supplementation.</p> <p>Date Problem Started: 08/04/2016</p> <p>Concurrent Medical Problem: Yes</p> <p>Pre Existing Conditions: Heart murmur first documented 4/3/2016 - 2/6 left basilar systolic</p> <p>Outcome to Date: Stable</p>												
Product Information:	<p>Product Name: Kirkland Signature Nature's Domain Turkey Meal and Sweet Potato Dog Food</p> <p>Product Type: Pet Food</p> <p>Lot Number:</p> <p>Product Use Information:</p> <table border="1"> <tr> <td>Description:</td> <td>Owner has been feeding daily for several years. Briefly switched diets for 3 months over 1 year prior but switched back as the Kirkland was better tolerated by the dog's GI tract.</td> </tr> <tr> <td>Last Exposure Date:</td> <td>03/09/2018</td> </tr> <tr> <td>Product Use Stopped After the Onset of the Adverse Event:</td> <td>Unknown</td> </tr> <tr> <td>Perceived Relatedness to Adverse Event:</td> <td>Possibly related</td> </tr> <tr> <td>Other Foods or Products Given to the Animal During This Time Period:</td> <td>Yes</td> </tr> </table> <p>Manufacturer /Distributor Information:</p> <p>Purchase Location Information:</p> <table border="1"> <tr> <td>Name:</td> <td>Costco Wholesale</td> </tr> </table>	Description:	Owner has been feeding daily for several years. Briefly switched diets for 3 months over 1 year prior but switched back as the Kirkland was better tolerated by the dog's GI tract.	Last Exposure Date:	03/09/2018	Product Use Stopped After the Onset of the Adverse Event:	Unknown	Perceived Relatedness to Adverse Event:	Possibly related	Other Foods or Products Given to the Animal During This Time Period:	Yes	Name:	Costco Wholesale
Description:	Owner has been feeding daily for several years. Briefly switched diets for 3 months over 1 year prior but switched back as the Kirkland was better tolerated by the dog's GI tract.												
Last Exposure Date:	03/09/2018												
Product Use Stopped After the Onset of the Adverse Event:	Unknown												
Perceived Relatedness to Adverse Event:	Possibly related												
Other Foods or Products Given to the Animal During This Time Period:	Yes												
Name:	Costco Wholesale												
Animal Information:	<p>Name: B6</p> <p>Type Of Species: Dog</p> <p>Type Of Breed: Retriever - Golden</p> <p>Gender: Female</p> <p>Reproductive Status: Neutered</p> <p>Weight: 31.1 Kilogram</p> <p>Age: 11 Years</p> <p>Assessment of Prior Health: Good</p> <p>Number of Animals Given the Product: 1</p> <p>Number of Animals Reacted: 1</p>												

	Owner Information:	Owner Information provided:	Yes
		Contact:	Name: B6 Phone: B6
		Address:	B6 United States
		Healthcare Professional Information:	Practice Name: B6 Contact: Name: B6 Phone: B6 Address: B6 United States Type of Veterinarian: Referred veterinarian Date First Seen: 08/04/2016
Sender Information:	Name:	B6	
	Address:	B6 United States	
	Contact:	Phone: B6 Email: B6	
	Reporter Wants to Remain Anonymous:	No	
	Permission To Contact Sender:	Yes	
	Preferred Method Of Contact:	Email	
	Reported to Other Parties:	None	
Additional Documents:			

Accession #	800.183	Species	FE		
Date	CC146411	Study #	800	Initial dsr	
B6					

Diagnostic Report:

Dr. Rotstein

Summary:

Pyothorax

Isolates:

- Anaerobic Culture of Thorax fluid- isolates identified using MALDI-TOF:
 - *Filifactor villosus* (formerly *Clostridium villosum*)-many
 - *Actinomyces sp*-many
 - *Fusobacterium sp*-many
 - *Porphyromonas sp*-few
- Aerobic Culture of Thorax fluid-isolates identified MALDI-TOF:
 - *E. coli*-few
- Gram Stain of thorax fluid:
 - very many gram positive rods & many fungal elements consistent with yeast
- Mycoplasma culture of thorax fluid:
 - Negative

Organ	Diagnosis	Slide #	Photo
Nervous/Sensory			
Brain	NSF	8,9,10	<input type="checkbox"/>
Peripheral Nerve			
Eye			<input type="checkbox"/>
Cardiopulmonary			
Nares			<input type="checkbox"/>
Heart			<input type="checkbox"/>
Trachea	NSF	3	<input type="checkbox"/>
Lung	A. Lung: <ul style="list-style-type: none"> a. Pleuritis, fibrinosuppurative, subacute, diffuse, marked with intralesional bacterial coccobacilli. b. Atelectasis, marginal, multifocal, moderate. c. Alveolar histiocytosis, multifocal, mild. 	1,2	<input checked="" type="checkbox"/>
Digestive/Hepato biliary			
Liver	NSF	3	<input type="checkbox"/>
Gall Bladder			<input type="checkbox"/>
Tongue	NSF	4	<input type="checkbox"/>
Esophagus	NSF	5	<input type="checkbox"/>

x = examined

lg = liver glycogen

Severity codes:

- 1 - minimal
- 2 - mild
- 3 - moderate
- 4 - marked
- 5 - severe

Extent codes

- F - focal
- M - multifocal
- D - diffuse

Gonad codes

- Organ
- t - testis
- o - ovary

Stage

- i - immature
- d - developing
- s - spent

Accession #	800.183	Species	FE		
Date	CC146411	Study #	800	Initial dsr	
B6					

Organ	Diagnosis	Slide #	Photo
Stomach			<input type="checkbox"/>
Intestine	NSF	5,6,7	<input type="checkbox"/>
Peritoneum			<input type="checkbox"/>
Salivary Gland			<input type="checkbox"/>
Pancreas			<input type="checkbox"/>
Mesentery			<input type="checkbox"/>
Hematopoietic/ Lymphoreticular			
Spleen	NSF	1	<input type="checkbox"/>
Thymus			<input type="checkbox"/>
Lymph Node, NOS	NSF	3,4	<input type="checkbox"/>
Mesenteric Lymph Node			<input type="checkbox"/>
Tonsil			<input type="checkbox"/>
Bone Marrow			<input type="checkbox"/>
Urogenital			
Kidney	NSF	4	<input type="checkbox"/>
Urinary Bladder	NSF	7	<input type="checkbox"/>
Repro			<input type="checkbox"/>
Musculoskeletal			
Diaphragm	A. Diaphragmitis, fibrinosuppurative, subacute, diffuse, moderate with intralesional bacterial cocci. B. Myofiber degeneration, multifocal, mild.	2,5	<input type="checkbox"/>
Skeletal Muscle, NOS			<input type="checkbox"/>
Integumentary			
Skin			<input type="checkbox"/>
Endocrine			
Thyroid Gland			<input type="checkbox"/>
Adrenal Gland	NSF	7	<input type="checkbox"/>
Parathyroid Gland			<input type="checkbox"/>
Pituitary Gland		10	<input type="checkbox"/>
			<input type="checkbox"/>
Misc			<input type="checkbox"/>
			<input type="checkbox"/>
			<input type="checkbox"/>
			<input type="checkbox"/>
			<input type="checkbox"/>
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Accession #	800.183	Species	FE		
Date	CC146411	Study #	800	Initial dsr	
B6					

Ancillary Diagnostics:

Test	Sample	Result	Comment

Summary Diagnoses

Pyothorax

Primary Diagnostic Category: Infectious

Linked to Food Exposure: Likely not related

Comments:

The cause of death of this feline is from pyothorax. Mixed bacterial populations were isolated and may represent post-mortem overgrowth with a sole initiating bacteria.

David S. Rotstein, DVM, MPVM, Dipl. ACVP

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Document properties

Title: 24-96-F1-5 (S3.90)
Author: J R Myers
Company: US FDA
Template: Normal.dotm
Page count: 2
Paragraph count: 143
Line count: 268
Word count: 281
Character count (spaces excluded): 1631
Character count (spaces included): 1781

Report Details - EON-384905

ICSR:	2065743																																												
Type Of Submission:	Followup																																												
Report Version:	FPSR.FDA.PETF.V.V1																																												
Type Of Report:	Adverse Event (a symptom, reaction or disease associated with the product)																																												
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Parent ICSR:	2063119																																												
Follow-up Report to FDA Request:	Yes																																												
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Product Information:	<table><tr><td>Product Name:</td><td colspan="2">Solid Gold Mighty Mini Beef, Sweet Potato, and Apple grain free dry</td></tr><tr><td>Product Type:</td><td colspan="2">Pet Food</td></tr><tr><td>Lot Number:</td><td colspan="2"></td></tr><tr><td>Package Type:</td><td colspan="2">BAG</td></tr><tr><td>Product Use Information:</td><td>Description:</td><td>1/4 cup kibble (divided into 2 meals) 1 tbsp cooked chicken BID Owner switched to Weight Control version of same diet (salmon, lentil, green bean) just a few days before visit</td></tr><tr><td>Manufacturer /Distributor Information:</td><td colspan="2"></td></tr><tr><td>Purchase Location Information:</td><td colspan="2"></td></tr></table>			Product Name:	Solid Gold Mighty Mini Beef, Sweet Potato, and Apple grain free dry		Product Type:	Pet Food		Lot Number:			Package Type:	BAG		Product Use Information:	Description:	1/4 cup kibble (divided into 2 meals) 1 tbsp cooked chicken BID Owner switched to Weight Control version of same diet (salmon, lentil, green bean) just a few days before visit	Manufacturer /Distributor Information:			Purchase Location Information:																							
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Manufacturer /Distributor Information:																																													
Purchase Location Information:																																													
Animal Information:	<table><tr><td>Name:</td><td colspan="2">B6</td></tr><tr><td>Type Of Species:</td><td colspan="2">Dog</td></tr><tr><td>Type Of Breed:</td><td colspan="2">Chihuahua</td></tr><tr><td>Gender:</td><td colspan="2">Female</td></tr><tr><td>Reproductive Status:</td><td colspan="2">Neutered</td></tr><tr><td>Weight:</td><td colspan="2">3.72 Kilogram</td></tr><tr><td>Age:</td><td colspan="2">9 Years</td></tr><tr><td>Assessment of Prior Health:</td><td colspan="2">Good</td></tr><tr><td>Number of Animals Given the Product:</td><td colspan="2">1</td></tr><tr><td>Number of Animals Reacted:</td><td colspan="2">1</td></tr><tr><td>Owner Information:</td><td>Owner Information provided:</td><td>Yes</td></tr><tr><td></td><td>Contact:</td><td><table><tr><td>Name:</td><td>B6</td></tr><tr><td>Phone:</td><td></td></tr><tr><td>Email:</td><td></td></tr></table></td></tr></table>			Name:	B6		Type Of Species:	Dog		Type Of Breed:	Chihuahua		Gender:	Female		Reproductive Status:	Neutered		Weight:	3.72 Kilogram		Age:	9 Years		Assessment of Prior Health:	Good		Number of Animals Given the Product:	1		Number of Animals Reacted:	1		Owner Information:	Owner Information provided:	Yes		Contact:	<table><tr><td>Name:</td><td>B6</td></tr><tr><td>Phone:</td><td></td></tr><tr><td>Email:</td><td></td></tr></table>	Name:	B6	Phone:		Email:	
Name:	B6																																												
Type Of Species:	Dog																																												
Type Of Breed:	Chihuahua																																												
Gender:	Female																																												
Reproductive Status:	Neutered																																												
Weight:	3.72 Kilogram																																												
Age:	9 Years																																												
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	Contact:	<table><tr><td>Name:</td><td>B6</td></tr><tr><td>Phone:</td><td></td></tr><tr><td>Email:</td><td></td></tr></table>	Name:	B6	Phone:		Email:																																						
Name:	B6																																												
Phone:																																													
Email:																																													

		Address:	<div style="border: 1px dashed black; padding: 5px; display: inline-block;"> B6 </div> United States	
	Healthcare Professional Information:	Practice Name:	Tufts Cummings School of Veterinary Medicine	
		Contact:	Name:	Lisa Freeman
			Phone:	(508) 887-4523
			Email:	lisa.freeman@tufts.edu
		Address:	200 Westboro Rd North Grafton Massachusetts 01536 United States	
Sender Information:	Name:	Lisa Freeman		
	Address:	200 Westboro Rd North Grafton Massachusetts 01536 United States		
	Contact:	Phone:	5088874523	
		Email:	lisa.freeman@tufts.edu	
	Permission To Contact Sender:	Yes		
	Preferred Method Of Contact:	Email		
Additional Documents:	Reported to Other Parties:	None		
	Attachment:	NT-proBNP & Diet Hx 4-5-19.pdf		
	Description:	Medical records		
	Type:	Medical Records		
	Attachment:	Medical record 1 as of 4-12-19.pdf		
	Description:	Medical record to date		
	Type:	Medical Records		

B6

B4, B6

Client: **B6**

Address: **B6**

Home Phone: **B6**

Work Phone: () -

Cell Phone: **B6**

All Medical Records

Patient: **B6**

Breed: Bulldog Cross

DOB: **B6**

Species: Canine

Sex: Male
(Neutered)

Referring Information

B6

B6

B6

B6

Client: **B6**

Patient: **B6**

Initial Complaint:

Emergency

SOAP Text **B6** 6:17PM - **B4, B6**

NEW VISIT (ER) - **B6**

Doctor: **B4, B6** DVM

Student: **B4, B6** V'19

Presenting complaint: vomiting, anorexia

Referral visit? Yes

Diagnostics completed prior to visit (approximately 2 PM on **B6**)

-CBC: HCT 36.9%, MCV 61.2 fL, LYMPH 0.89 k/uL, EOS 0.01 k/uL

-Chemistry: ALT 256 U/L

-Abdominal radiographs + 1 VD thoracic view available on ER e-mail

HISTORY

Signalment: 10 yr. M/C Bulldog mix

Current history: Owner states that for the past 3-4 weeks, **B6** has been eating random things out of the garbage (children's crayons, cat food cans) but only become anorexic 3 days ago. **B6** vomited 3 times yesterday and 1 time this morning, consisting of bile and has not been drinking. Owner does not notice any change in behavior or lethargy (owner says patient is typically quiet and sleeps a lot). rDVM performed abdominal radiographs and CBC/chem and referred patient here for further evaluation.

Prior medical history: Ear infections and seasonal atopy managed with shampoos and limited ingredient diet. Adopted from rescue organization when **B6** was approximately 9 months old. Patient is hypothyroid; well controlled.

Client: **B6**
Patient: **B6**

Current medications: levothyroxine 0.5 mg PO q 12 hrs
Diet: Raw Limited Ingredient Salmon

EXAM

B6

ASSESSMENT

A1: Arrhythmia - suspect atrial fibrillation secondary to enlarged left atrium
A2: Vomiting - r/o gastritis vs pancreatitis vs neoplasia vs obstruction vs other

PLAN

B6

Client: B6

Patient: B6

Resuscitation code (if admitting to ICU): Red

SOAP approved (DVM to sign): B4, B6 DVM

SOAP Text B6 6:11AM - B4, B6

B6

HISTORY

Signalment: 10 yr. M/C Bulldog mix

Current history: Owner states that for the past 3-4 weeks, B6 has been eating random things out of the garbage (children's crayons, cat food cans) but only become anorexic 3 days ago. B6 vomited 3 times yesterday and 1 time this morning, consisting of bile and has not been drinking. Owner does not notice any change in behavior or lethargy (owner says patient is typically quiet and sleeps a lot). rDVM performed abdominal radiographs and CBC/chem and referred patient here for further evaluation.

Prior medical history: Ear infections and seasonal atopy managed with shampoos and limited ingredient diet. Adopted from rescue organization when B6 was approximately 9 months old. Patient is hypothyroid; well controlled.

Current medications: levothyroxine 0.5 mg PO q 12 hrs

Diet: Raw Limited Ingredient Salmon - Rawz for about 1.5-2 years, but been on grain free for a long time

Might have tried hydrolyzed food in the past but unsure

EXAM

B6

ASSESSMENT

A1: Arrhythmia - suspect atrial fibrillation secondary to enlarged left atrium

A2: Vomiting - r/o gastritis vs pancreatitis vs neoplasia vs obstruction vs other

Client: **B6**
Patient: **B6**

PLAN

B6

Disposition/Recommendations

Client: B6
Patient: B6

Client: **B6**
Patient: **B6**

B4, B6

B4, B6

Client: **B6**
Veterinarian:
Patient ID: **B6**
Visit ID:

Patient: **B6**
Species: Canine
Breed: Bulldog Cross
Sex: Male (Neutered)
Age: 10.02 Years Old

Lab Results Report

Nova Full Panel-ICU		B6	8:52:25 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	
BEecf		0 - 0	mmol/L	
BEb		0 - 0	mmol/L	
A		0 - 0	mmHg	
NOVA SAMPLE		0 - 0		



6/52

B6

B6

Printed Monday, October 08, 2018

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 **B6** 8:54:03 PM **Accession ID: B6**

Test	Results	Reference Range	Units
HW ANTIGEN-CANINE	B6	0 - 0	
LYME C6		0 - 0	
A.PHAGO/PLATYS		0 - 0	
E CANIS/EWINGI		0 - 0	

Nova Full Panel-ICU **B6** 8:54:13 PM **Accession ID: B6**

Test	Results	Reference Range	Units
WBC (ADVIA)	B6	4.4 - 15.1	K/uL
RBC(ADVIA)		5.8 - 8.5	M/uL
HGB(ADVIA)		13.3 - 20.5	g/dL
HCT(ADVIA)		39 - 55	%
MCV(ADVIA)		64.5 - 77.5	fL
MCH(ADVIA)		21.3 - 25.9	pg
MCHC(ADVIA)		31.9 - 34.3	g/dL
RDW (ADVIA)		11.9 - 15.2	
PLT(ADVIA)		173 - 486	K/uL
MPV (ADVIA)		8.29 - 13.2	fL
PLTCRT		0.129 - 0.403	%
RETIC(ADVIA)		0.2 - 1.6	%
RETICS (ABS) ADVIA		14.7 - 113.7	K/uL
COMMENTS (HEMATOLOGY)		0 - 0	

Nova Full Panel-ICU **B6** 8:54:27 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
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



7/52

B6

B6

Printed Monday, October 08, 2018

Client: **B6**
Patient: **B6**

A/G RATIO	B6	0.7 - 1.6	
SODIUM		140 - 150	mEq/L
CHLORIDE		106 - 116	mEq/L
POTASSIUM		3.7 - 5.4	mEq/L
tCO ₂ (BICARB)		14 - 28	mEq/L
AGAP		8 - 19	
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
GGT		0 - 10	U/L
ALT		14 - 86	U/L
AST		9 - 54	U/L
CK		22 - 422	U/L
6068 Result(s) verified			
CHOLESTEROL		82 - 355	mg/dL
TRIGLYCERIDES		30 - 338	mg/dl
AMYLASE		409 - 1250	U/L
OSMOLALITY (CALCULATED)		291 - 315	mmol/L

Nova Full Panel-ICU	B6	8:54:11 PM	Accession ID:	B6
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Test	Results	Reference Range	Units
SEGS%	B6	43 - 86	%
LYMPHS%		7 - 47	%
MONOS%		1 - 15	%
SEGS (AB)ADVIA		2.8 - 11.5	K/uL
LYMPHS (ABS)ADVIA		1 - 4.8	K/uL
MONOS (ABS)ADVIA		0.1 - 1.5	K/uL
WBC MORPHOLOGY		0 - 0	
Occasional reactive lymphocytes			
ACANTHOCYTES		0 - 0	
KERATOCYTES/BLISTER CELLS		0 - 0	
POIKILOCYTOSIS		0 - 0	
SCHISTOCYTES		0 - 0	
SPHEROCYTES		0 - 0	

Nova Full Panel-ICU	B6	8:54:00 PM	Accession ID:	B6
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Test	Results	Reference Range	Units
CBC Review		0 - 0	

See comment.

Poikilocytosis can be associated with liver disease and vascular pathology among other causes; it is a nonspecific



8/52

B6

B6

Printed Monday, October 08, 2018

Client: B6

Patient: B6

finding: B4, B6 DVM PhD DACVP

Nova Full Panel-ICU B6 3:54:00 PM **Accession ID:** B6

Test	Results	Reference Range	Units
T4/TOSOH	B6	1 - 4.1	ug/dl

Nova Full Panel-ICU B6 8:58:31 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



9/52

B6

B6

Printed Monday, October 08, 2018

Patient: **B6**

RDVM **B6** **medical records 5/31/18-10/4/18**

B6

Address: B6

Cellular Home: **B6**

Email Address: **B6**

Patient ID	B6
Name	B6

Species: CANINE
Breed: BULLDOG/MIX
Color: WHITE/YELLOW
Birth Date: **B6**

Microchip:
 Sex Male *Neutral*

Client Education

Puppy/Kitten	Lyme	Senior Wellness
Deference	Rabies	Dental Disease
Basic Training	Flea & Tick	FUS
Aggression	Obesity	Elim. Disorder
Heartworm	Osteoarthritis	
Leptospirosis		

Immunization Record

YEAR	
Felv/FIV Test	
FVRCP	
FELV	
Rabies	
DA2PP2	
Lepto.	
Lyme	
Influenza	
Bordetella	
HW Test	
Lyme Test	
E. Canis Test	
A. Phago Test	
Fecal	

3-5-14 37

3-7-14 38

B6

u/s 6/18/18

Superficial veins
cephalic better

Client: B6

Patient: B6

RDVM B6 medical records B6

PAGE:

PATIENT
NAME

OWNER'S
NAME

DATE			PROB. NO.	SOAP
MO.	DAY	YR.		

MEDICAL RECORD

B6

Patient: **B6**

RDVM **B6** **medical record** **B6**

PATIENT NAME					OWNER'S NAME		PAGE:
MO.	DATE	YR.	PROB. NO.	SOAP	MEDICAL RECORD		

B6

Client: B6

Patient: B6

RDVM B6 medical records B6

PATIENT NAME					PAGE:	
OWNER'S NAME						
MO.	DATE DAY	YR.	PROB. NO.	SOAP	MEDICAL RECORD	
<h1>B6</h1>						

Client: B6
Patient: B6

RDVM B6 medical records B6

PATIENT NAME					PAGE:	
OWNER'S NAME						
MO.	DATE DAY	YR.	PROB. NO.	SOAP	MEDICAL RECORD	

B6

Patient: **B6**

RDVM	B6	medical records	B6
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					PAGE:	
PATIENT NAME				OWNER'S NAME		
MO.	DATE	YR.	PROB. NO.	SOAP	MEDICAL RECORD	

B6

[illegible]

Client: B6
Patient: B6

RDVM B6 medical records B6

PATIENT NAME					PAGE:	
					OWNER'S NAME	
DATE		PROB. NO.	SOAP	MEDICAL RECORD		
MO.	DAY					

B6

Client: **B6**
Patient: **B6**

RDVM **B6** medical records **B6**

PATIENT NAME					PAGE:	
OWNER'S NAME						
MO.	DATE		PROB. NO.	SOAP		
DAY	YR.				MEDICAL RECORD	

B6

Client: **B6**
Patient: **B6**

RDVM B6 medical records B6

[illegible]

Client: B6
Patient: B6

RDVM

B6

medical records

B6

B6

Client: B6

Patient: B6

RDVM

B6

medical records

B6

B6

Client: **B6**
Patient: **B6**

RDVM **B6** **medical record** **B6**

B6

Client: B6
Patient: B6

RDVM B6 medical records 5/31/18-10/4/18

Client: B6
B6
Patient Name: B6
Species: Canine
Breed:
Gender: Male/Castrated
Weight: 70.40 lbs
Age: 10 Years
Doctor: B6 DVM

Test	Results	Reference Interval	LOW	NORMAL	HIGH
ProCyte Dx	B6	24 PM)			5/31/18
RBC		5.65 - 8.87			
HCT		37.3 - 61.7	LOW		
HGB		13.1 - 20.5			
MCH		61.6 - 73.8	LOW		
MCHC		21.2 - 25.9			
RDW		32.0 - 37.9			
%RETIC		13.6 - 21.7			
RETIC		10.0 - 110.0			
RETIC-HGB		22.3 - 29.6			
WBC		5.05 - 16.76			
%NEU					
%LYM					
%MONO					
%EOS					
%BASO					
NEU		2.85 - 11.64			
LYM		1.05 - 5.10	LOW		
MONO		0.16 - 1.12			
EOS		0.08 - 1.05	LOW		
BASO		0.00 - 0.10			
PLT		148 - 484			
MPV		8.7 - 13.2			
PDW		9.1 - 19.4			
PCT		0.14 - 0.46			

RBC Run

WBC Run

B6

Printed: B6 1:32 PM

Page 1 of 2

B6

Client: B6

Patient: B6

RDVM

B6

medical records

B6

Client: B6

B6

Patient Name: B6

Species: Canine

Breed:

Gender: Male/Castrated

Weight: 70.40 lbs

Age: 10 Years

Doctor: B6 DVM

Test	Results	Reference Interval	LOW	NORMAL	HIGH
------	---------	--------------------	-----	--------	------

Catalyst One

8:13:32 PM

5/31/18

GLU
CREA
BUN
BUN/CREA
PHOS
CA
TP
ALB
GLOB
ALB/GLOB
ALT
ALKP
GGT
TBIL
CHOL
AMY
LIPA
Na
K
Na/K
Cl
Osm Calc

B6

70 - 143
0.5 - 1.8
7 - 27
2.5 - 6.8
7.9 - 12.0
5.2 - 8.2
2.2 - 3.9
2.5 - 4.5
10 - 135
23 - 212
0 - 11
0.0 - 0.9
110 - 320
500 - 1600
200 - 1800
144 - 160
3.5 - 5.8
100 - 122

HIGH

LOW

B6

Printed: B6 12 PM

Page 2 of 2

B4, B6

Client: B6
Patient: B6

RDVM B6 allergy test results 10/5/16

10/05/2018 17:46

B4, B6

B6

PAGE 02/03

B4, B6

B4, B6

B4, B6

Allergy Test Results

B4, B6

Log#: 256495ER

Patient Name: B6

Diets Recommended

- Iams - Skin & Coat Plus Response FP: Potato, herring meal, catfish, animal fat, beet pulp, fish digest (Dry)
- FirstMate - Grain Free Wild Tuna Formula: Tuna, water, potato, kale (Can)
- FirstMate - Grain Free Salmon Formula: Wild boneless/skinless salmon, water, potato, kale (Can)
- Hill's - d/d Canine Salmon Formula: Water, salmon, potato, potato starch, potato protein, soybean oil, fish oil, powdered cellulose (Can)
- Brothers Complete - Bare Bites: Beef liver (Treat)
- Canine Caviar - Turkey: Turkey, water, turkey liver, guar gum (Can); Can be mixed with potato
- Canine Caviar - Duck: Duck, duck liver, sweet potatoes, water, guar gum (Can)
- Hill's - d/d Canine Duck Formula: Water, duck, potato, duck liver, potato starch, soybean oil, powdered cellulose, fish oil (Can)
- Hill's - d/d Canine Venison Formula: Water, venison, potatoes, potato starch, potato protein, soybean oil, powdered cellulose, fish oil (Can)
- Canine Caviar - Venison: Venison, water, venison tripe, venison liver, guar gum (Can); Can be mixed with potato
- Iams - Response KO: Oat flour, kangaroo, canola meal, animal fat, beet pulp, fish oil (Dry)
- Canine Caviar - Beaver: Beaver, water, guar gum (Can)
- Canine Caviar - Buffalo: Buffalo, water, guar gum (Can)



B4, B6

Allergy Tests You Can Trust

Client: B6
Patient: B6

RDVM B6 allergy test results 10/5/16

10/05/2016 17:46

B6

B6

PAGE 03/03

B4, B6

B4, B6

B4, B6

Allergy Test Results

Date Received: 9/30/2016 Date Returned: 10/5/2016 Dr.: B4, B6
Clinic: B6 Account No.: B6
Address: B6
City: B6 State/Province: B6 Zip/Postal Code: B6 Country:
Phone: B6 FAX: B6
Log#: 256495ER Patient Name: B6 Breed: Bulldog Mix Age: 7yr M Species: Dog
Owner's First Name: B6 Owner's Last Name: B6

B4, B6

PRIMARY FOODS

Allergen	Class Score	Allergen	Class Score
Egg		Milk	
Salmon		Wheat	
Corn		Rice	
Soybean		Pork	
Beef		Turkey	
Chicken		Lamb	

Explanation of Results:

Classes 1, 2, 3, 4, 5 and 6 represent levels of IgE antibody specific for the respective allergen. Consider Class 2 level and greater for allergen immunotherapy.

EXTENDED FOODS

Allergen	Class Score	Allergen	Class Score
Egg	2	Milk	1
Salmon	0	Wheat	0
Corn	0	Rice	3
Soybean	1	Pork	0
Beef	1	Turkey	0
Chicken	2	Lamb	3
Duck	0	Potato	0
Rabbit	0	Venison	0
Yeast	0	Pea	0
Oat	0	Barley	0

Class 6- Ultra high level

Class 5- Ultra high level

Class 4- Very high level

Class 3- High level

Class 2- Low level

Class 1- Very low level

Class 0- Absent or undetectable

B4, B6

MOLD SPECIAL PANEL

Allergen	Class Score	Allergen	Class Score
Penicillium		Cladosporium	
Aspergillus		Mucor	
Alternaria		Helminthosporium	
Fusarium		Stemphylium	
Rhizopus		Aureobasidium	
Phoma		Epicoccum	

**** VERY IMPORTANT ** Please read**

IF REQUESTED
FOODS AND SPECIAL PANELS ON THIS PAGE

Flea hypersensitivity is a multi-component disease. It is not always totally IgE antibody-mediated. Negative in vitro test probably indicates a Type IV Cell-mediated (Delayed-type Hypersensitivity)

VETERINARIAN

Client: B6
Patient: B6

Vitals Results

4:57:35 PM	Heart Rate (/min)
4:57:36 PM	Respiratory Rate
4:57:37 PM	Temperature (F)
4:57:38 PM	Weight (kg)
7:23:44 PM	Heart Rate (/min)
7:23:45 PM	Temperature (F)
7:23:46 PM	Respiratory Rate
9:34:16 PM	Amount eaten
10:12:31 PM	Cardiac rhythm
10:12:32 PM	Heart Rate (/min)
10:12:52 PM	Respiratory Rate
11:52:54 PM	Cardiac rhythm
11:52:55 PM	Heart Rate (/min)
11:53:07 PM	Eliminations
11:53:16 PM	Respiratory Rate
1:00:47 AM	Cardiac rhythm
1:00:48 AM	Heart Rate (/min)
1:37:16 AM	Catheter Assessment
1:38:12 AM	Respiratory Rate
1:50:37 AM	Cardiac rhythm
1:50:38 AM	Heart Rate (/min)
2:49:03 AM	Cardiac rhythm
2:49:04 AM	Heart Rate (/min)
3:35:48 AM	Respiratory Rate
3:36:03 AM	Cardiac rhythm
3:36:04 AM	Heart Rate (/min)
4:44:11 AM	Cardiac rhythm
4:44:12 AM	Heart Rate (/min)
5:37:23 AM	Weight (kg)
5:37:33 AM	Eliminations
5:38:50 AM	Respiratory Rate
5:39:04 AM	Catheter Assessment
5:39:36 AM	Temperature (F)
6:30:19 AM	Cardiac rhythm
6:30:20 AM	Heart Rate (/min)
7:28:56 AM	Respiratory Rate
8:01:55 AM	Cardiac rhythm
8:01:56 AM	Heart Rate (/min)
8:55:50 AM	Cardiac rhythm

B6

B6

Client: **B6**
Patient: **B6**

Vitals Results

8:55:51 AM	Heart Rate (/min)
8:56:45 AM	Catheter Assessment
10:04:36 AM	Cardiac rhythm
10:04:37 AM	Heart Rate (/min)
10:05:26 AM	Respiratory Rate
11:07:25 AM	Cardiac rhythm
11:07:26 AM	Heart Rate (/min)
11:12:49 AM	Respiratory Rate
11:13:11 AM	Eliminations
12:20:08 PM	Blood Pressure (mmHg)
12:28:05 PM	Cardiac rhythm
12:28:06 PM	Heart Rate (/min)
12:55:30 PM	Cardiac rhythm
12:55:31 PM	Heart Rate (/min)
1:40:43 PM	Cardiac rhythm
1:40:44 PM	Heart Rate (/min)
1:42:42 PM	Respiratory Rate
1:42:50 PM	Catheter Assessment
2:56:24 PM	Cardiac rhythm
2:56:25 PM	Heart Rate (/min)
3:50:38 PM	Cardiac rhythm
3:50:39 PM	Heart Rate (/min)
3:51:17 PM	Respiratory Rate
4:53:34 PM	Cardiac rhythm
4:53:35 PM	Heart Rate (/min)
5:26:51 PM	Weight (kg)
5:27:11 PM	Catheter Assessment
5:27:40 PM	Eliminations
5:28:37 PM	Cardiac rhythm
5:28:38 PM	Heart Rate (/min)
5:31:07 PM	Respiratory Rate
5:31:19 PM	Temperature (F)
5:42:41 PM	Amount eaten
6:26:38 PM	Cardiac rhythm
6:26:39 PM	Heart Rate (/min)
7:11:26 PM	Respiratory Rate
7:33:30 PM	Cardiac rhythm
7:33:31 PM	Heart Rate (/min)
8:37:08 PM	Cardiac rhythm
8:37:09 PM	Heart Rate (/min)
9:04:40 PM	Catheter Assessment

B6

B6

Client: B6
Patient: B6

Vitals Results

B6	9:04:48 PM	Respiratory Rate	B6
	10:11:22 PM	Cardiac rhythm	
	10:11:23 PM	Heart Rate (/min)	
	10:36:23 PM	Cardiac rhythm	
	10:36:24 PM	Heart Rate (/min)	
	11:20:49 PM	Eliminations	
	11:20:56 PM	Respiratory Rate	
	11:21:56 PM	Cardiac rhythm	
	11:21:57 PM	Heart Rate (/min)	
	1:40:01 AM	Catheter Assessment	
	1:40:50 AM	Cardiac rhythm	
	1:40:51 AM	Heart Rate (/min)	
	1:41:04 AM	Respiratory Rate	
	3:26:17 AM	Cardiac rhythm	
	3:26:18 AM	Heart Rate (/min)	
	3:26:43 AM	Respiratory Rate	
	3:30:08 AM	Cardiac rhythm	
	3:30:09 AM	Heart Rate (/min)	
	4:27:51 AM	Cardiac rhythm	
	4:27:52 AM	Heart Rate (/min)	
	5:53:01 AM	Cardiac rhythm	
	5:53:02 AM	Heart Rate (/min)	
	5:55:46 AM	Catheter Assessment	
	5:55:59 AM	Amount eaten	
	5:56:30 AM	Respiratory Rate	
	6:00:21 AM	Weight (kg)	
	6:00:27 AM	Eliminations	
	6:00:34 AM	Temperature (F)	
	6:41:18 AM	Cardiac rhythm	
	6:41:19 AM	Heart Rate (/min)	
	7:34:31 AM	Blood Pressure (mmHg)	
	7:35:00 AM	Cardiac rhythm	
	7:35:01 AM	Heart Rate (/min)	
	7:35:25 AM	Respiratory Rate	
	8:37:50 AM	Cardiac rhythm	
	8:37:51 AM	Heart Rate (/min)	
	9:59:36 AM	Cardiac rhythm	
	9:59:37 AM	Heart Rate (/min)	
	10:02:17 AM	Respiratory Rate	
	10:02:31 AM	Catheter Assessment	
	10:50:27 AM	Cardiac rhythm	

Client: **B6**
Patient: **B6**

Vitals Results

B6	10:50:28 AM	Heart Rate (/min)	B6
	11:29:06 AM	Eliminations	
	11:55:39 AM	Cardiac rhythm	
	11:55:40 AM	Heart Rate (/min)	
	11:55:49 AM	Respiratory Rate	
	12:45:30 PM	Cardiac rhythm	
	12:45:31 PM	Heart Rate (/min)	
	1:44:51 PM	Cardiac rhythm	
	1:44:52 PM	Heart Rate (/min)	
	2:07:26 PM	Respiratory Rate	
	2:07:35 PM	Catheter Assessment	
	2:57:59 PM	Cardiac rhythm	
	2:58:00 PM	Heart Rate (/min)	

Client: B6
Patient: B6

ECG from Cardio

B6

10/5/2018 11:54:36 AM

B4, B6
Cardiology

B6

Client: **B6**
Patient: **B6**

ECG from Cardio

B6

10/5/2018 11:54:52 AM

B4, B6

Cardiology

B6

Client: B6
Patient: B6

Patient History

B6	04:57 PM	Vitals
	04:57 PM	Vitals
	04:57 PM	Vitals
	04:57 PM	Vitals
	05:05 PM	UserForm
	05:06 PM	UserForm
	07:23 PM	Vitals
	07:23 PM	Vitals
	07:23 PM	Vitals
	07:23 PM	Vitals
	08:13 PM	UserForm
	08:52 PM	Purchase
	08:53 PM	Purchase
	08:53 PM	Purchase
	08:55 PM	Purchase
	08:58 PM	Labwork
	09:08 PM	Treatment
	09:28 PM	Purchase
	09:28 PM	Purchase
	09:33 PM	Treatment
	09:34 PM	Treatment
	09:34 PM	Vitals
	10:12 PM	Treatment
	10:12 PM	Treatment
	10:12 PM	Vitals
	10:12 PM	Vitals
	10:12 PM	Treatment
	10:12 PM	Vitals
	10:46 PM	Purchase
	10:46 PM	Purchase
	10:46 PM	Purchase
	11:52 PM	Treatment
	11:52 PM	Treatment
	11:52 PM	Vitals
	11:52 PM	Vitals
	11:53 PM	Treatment
	11:53 PM	Vitals
	11:53 PM	Treatment
	11:53 PM	Vitals
	01:00 AM	Treatment
	01:00 AM	Vitals
	01:00 AM	Vitals

B6

Client: B6
Patient: B6

Patient History

01:33 AM	Treatment
01:37 AM	Treatment
01:37 AM	Vitals
01:38 AM	Treatment
01:38 AM	Vitals
01:50 AM	Treatment
01:50 AM	Vitals
01:50 AM	Vitals
02:49 AM	Treatment
02:49 AM	Vitals
02:49 AM	Vitals
03:35 AM	Treatment
03:35 AM	Vitals
03:36 AM	Treatment
03:36 AM	Vitals
03:36 AM	Vitals
04:03 AM	Prescription
04:44 AM	Treatment
04:44 AM	Vitals
04:44 AM	Vitals
05:30 AM	Treatment
05:37 AM	Treatment
05:37 AM	Treatment
05:37 AM	Vitals
05:37 AM	Treatment
05:37 AM	Vitals
05:38 AM	Treatment
05:38 AM	Vitals
05:39 AM	Treatment
05:39 AM	Vitals
05:39 AM	Treatment
05:39 AM	Vitals
06:30 AM	Treatment
06:30 AM	Treatment
06:30 AM	Vitals
06:30 AM	Vitals
06:30 AM	Vitals
07:28 AM	Treatment
07:28 AM	Vitals
07:56 AM	Purchase
08:01 AM	Treatment

B6

B6

Client: B6
Patient: B6

Patient History

B6	08:01 AM	Vitals	B6
	08:01 AM	Vitals	
	08:23 AM	Purchase	
	08:55 AM	Treatment	
	08:55 AM	Vitals	
	08:55 AM	Vitals	
	08:56 AM	Treatment	
	08:56 AM	Treatment	
	08:56 AM	Vitals	
	09:09 AM	Purchase	
	09:11 AM	Purchase	
	10:04 AM	Vitals	
	10:04 AM	Vitals	
	10:05 AM	Vitals	
	10:24 AM	Treatment	
	10:25 AM	Treatment	
	10:40 AM	UserForm	
	11:07 AM	Treatment	
	11:07 AM	Vitals	
	11:07 AM	Vitals	
	11:12 AM	Treatment	
	11:12 AM	Vitals	
	11:13 AM	Treatment	
	11:13 AM	Vitals	
	11:13 AM	Purchase	
	11:58 AM	Treatment	
	11:59 AM	Purchase	
	11:59 AM	Purchase	
	12:08 PM	Purchase	
	12:20 PM	Vitals	
	12:20 PM	Purchase	
	12:28 PM	Treatment	
	12:28 PM	Vitals	
	12:28 PM	Vitals	
	12:55 PM	Treatment	
	12:55 PM	Vitals	
	12:55 PM	Vitals	
	01:40 PM	Treatment	
	01:40 PM	Vitals	
	01:40 PM	Vitals	
	01:42 PM	Treatment	
	01:42 PM	Treatment	

Client: B6
Patient: B6

Patient History

B6	01:42 PM	Vitals	B6
	01:42 PM	Treatment	
	01:42 PM	Vitals	
	02:12 PM	Prescription	
	02:13 PM	Purchase	
	02:42 PM	Purchase	
	02:48 PM	Treatment	
	02:56 PM	Treatment	
	02:56 PM	Vitals	
	02:56 PM	Vitals	
	02:57 PM	Treatment	
	03:50 PM	Treatment	
	03:50 PM	Vitals	
	03:50 PM	Vitals	
	03:51 PM	Treatment	
	03:51 PM	Vitals	
	04:53 PM	Treatment	
	04:53 PM	Vitals	
	04:53 PM	Vitals	
	05:26 PM	Treatment	
	05:26 PM	Vitals	
	05:27 PM	Treatment	
	05:27 PM	Treatment	
	05:27 PM	Vitals	
	05:27 PM	Treatment	
	05:27 PM	Vitals	
	05:28 PM	Treatment	
	05:28 PM	Vitals	
	05:28 PM	Vitals	
	05:31 PM	Treatment	
	05:31 PM	Vitals	
	05:31 PM	Treatment	
	05:31 PM	Vitals	
	05:32 PM	Prescription	
	05:42 PM	Treatment	
	05:42 PM	Vitals	
	05:49 PM	Prescription	
	06:24 PM	Treatment	
	06:24 PM	Treatment	
	06:26 PM	Treatment	
	06:26 PM	Vitals	

Client: **B6**
Patient: **B6**

Patient History

B6	06:26 PM	Vitals	B6
	07:11 PM	Treatment	
	07:11 PM	Vitals	
	07:33 PM	Treatment	
	07:33 PM	Vitals	
	07:33 PM	Vitals	
	08:37 PM	Treatment	
	08:37 PM	Vitals	
	08:37 PM	Vitals	
	08:59 PM	Treatment	
	09:04 PM	Treatment	
	09:04 PM	Treatment	
	09:04 PM	Vitals	
	09:04 PM	Treatment	
	09:04 PM	Vitals	
	09:13 PM	Purchase	
	09:13 PM	Purchase	
	10:11 PM	Treatment	
	10:11 PM	Vitals	
	10:11 PM	Vitals	
	10:36 PM	Treatment	
	10:36 PM	Vitals	
	10:36 PM	Vitals	
	10:38 PM	Treatment	
	11:20 PM	Treatment	
	11:20 PM	Vitals	
	11:20 PM	Treatment	
	11:20 PM	Vitals	
	11:21 PM	Treatment	
	11:21 PM	Vitals	
	11:21 PM	Vitals	
	01:39 AM	Treatment	
	01:40 AM	Treatment	
	01:40 AM	Vitals	
	01:40 AM	Treatment	
	01:40 AM	Vitals	
	01:40 AM	Vitals	
	01:41 AM	Treatment	
	01:41 AM	Vitals	
	03:26 AM	Treatment	
	03:26 AM	Vitals	

Client: **B6**
Patient: **B6**

Patient History

B6	03:26 AM	Vitals	B6
	03:26 AM	Treatment	
	03:26 AM	Vitals	
	03:30 AM	Treatment	
	03:30 AM	Vitals	
	03:30 AM	Vitals	
	04:27 AM	Treatment	
	04:27 AM	Vitals	
	04:27 AM	Vitals	
	05:52 AM	Treatment	
	05:53 AM	Treatment	
	05:53 AM	Vitals	
	05:53 AM	Vitals	
	05:55 AM	Treatment	
	05:55 AM	Vitals	
	05:55 AM	Treatment	
	05:55 AM	Vitals	
	05:56 AM	Treatment	
	05:56 AM	Treatment	
	05:56 AM	Vitals	
	06:00 AM	Treatment	
	06:00 AM	Vitals	
	06:00 AM	Treatment	
	06:00 AM	Vitals	
	06:00 AM	Treatment	
	06:00 AM	Vitals	
	06:41 AM	Treatment	
	06:41 AM	Vitals	
	06:41 AM	Vitals	
	07:24 AM	Treatment	
	07:34 AM	Vitals	
	07:34 AM	Treatment	
	07:35 AM	Treatment	
	07:35 AM	Vitals	
	07:35 AM	Vitals	
	07:35 AM	Treatment	
	07:35 AM	Vitals	
	08:37 AM	Treatment	
	08:37 AM	Vitals	
	08:37 AM	Vitals	
	09:11 AM	Purchase	

Client: B6
Patient: B6

Patient History

09:59 AM	Treatment
09:59 AM	Vitals
09:59 AM	Vitals
10:02 AM	Treatment
10:02 AM	Vitals
10:02 AM	Treatment
10:02 AM	Treatment
10:02 AM	Vitals
10:33 AM	UserForm
10:50 AM	Treatment
10:50 AM	Vitals
10:50 AM	Vitals
11:29 AM	Treatment
11:29 AM	Vitals
11:47 AM	Deleted Reason
11:55 AM	Treatment
11:55 AM	Vitals
11:55 AM	Vitals
11:55 AM	Treatment
11:55 AM	Vitals
11:57 AM	Purchase
12:05 PM	Prescription
12:05 PM	Prescription
12:06 PM	Purchase
12:45 PM	Treatment
12:45 PM	Vitals
12:45 PM	Vitals
01:43 PM	Treatment
01:44 PM	Treatment
01:44 PM	Vitals
01:44 PM	Vitals
02:07 PM	Treatment
02:07 PM	Vitals
02:07 PM	Treatment
02:07 PM	Vitals
02:57 PM	Treatment
02:57 PM	Vitals
02:57 PM	Vitals
02:59 PM	Treatment

B6

B6

B4, B6

B6

B6

B6

Male (Neutered)

Canine Bulldog Cross White/Yellow

Patient ID: B6

STANDARD CONSENT FORM

B6

B6

Owner's name: **B6**

Date: **B6**

Owner's address: **B6**

B6

OWNER'S PRINTED SIGNATURE

B6

DATE

**If the individual admitting the animal is someone other than the legal owner,
please complete the portion below:**

B6

Authorized Agent - Please Print

Agent's Signature

Street Address

Date

Town/City

State

Zip

B4, B6

B6

Patient ID: **B6**

B6

Canine

10.01 Years Old Male (Neutered) Bulldog
Cross

Body Weight: Weight (kg) 0.00

Brachycephalic Consent Form
Anesthesia, Sedation and Hospitalization

B6

B6

B6

Owner signature:

B6

Date:

B6

B4, B6

Treatment Plan

B4, B6

Estimated Charges

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.

Patient	Description	Low Qty	Low Extended	HighQty	High Extended
B6	This estimate includes hospitalization, medication, cardiology consult, bloodwork. It does not include surgery, if indicated.	B6			

B6

Doctor of Record: **B4, B6**

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
Low Total
75% Deposit

B6

Page 1/1

Printed

B6

B4, B6

B6

Patient ID: B6

B6

Canine

1002 years Old Male (Neutered) Bulldog
Cross

White/Yellow BW: Weight (kg) 32.00

Cardiology Consultation

Date: B6

Weight: Weight (kg) 32.00

Requesting Clinician: B6 DVM (Emergency & Critical Care Resident)

Attending Cardiologist:

B4, B6

Cardiology Resident:

B4, B6

Thoracic radiographs available for review?

- ☐ Yes - in SS
- ☐ Yes - in PACS
- ☐ No

Patient location:

ICU Run

Presenting complaint and important concurrent diseases:

Acute onset of V x 24 hours, anorexia for 3 days. Does get into trash and things at home. History of hypothyroidism, skin issues. On Rawz diet at home (grain free).

Current medications and doses:

Soloxine

Cerenia 1 mg/kg IV q 24 hr in hospital

At-home diet: (name, form, amount, frequency)

Rawz limited ingredient wild salmon

Key indication for consultation: (murmur, arrhythmia, needs fluids, etc.)

Afib on telemetry (rate 120-140 bpm) with occasional monomorphic VPCs

Suspect DCM based on TFAST

Questions to be answered: Cause of arrhythmia

Is your consult time-sensitive? (e.g., anesthesia today, owner waiting, trying to get biopsy today)

- ☐ Yes (explain):
☒ No

STOP - remainder of form to be filled out by Cardiology

Physical Examination

Heart rate: 120-150
MM Color and CRT: pink

Respiratory rate: 30-40
BCS (1-9): 6

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 checked="" 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 systolic apical

Jugular vein:

- | | |
|--|--|
| <input checked="" type="checkbox"/> Bottom 1/3 of the neck | <input type="checkbox"/> Top 2/3 of the neck |
| <input type="checkbox"/> Middle 1/3 of the neck | <input type="checkbox"/> 1/2 way up 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 (describe): |

Arrhythmia: irregularly irregular

- | | |
|---|--------------------------------------|
| <input type="checkbox"/> None | <input type="checkbox"/> Bradycardia |
| <input type="checkbox"/> Sinus arrhythmia | <input type="checkbox"/> Tachycardia |
| <input type="checkbox"/> Premature beats | |

Gallop:

- | | |
|---|-------------------------------------|
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> Pronounced |
| <input type="checkbox"/> No | <input type="checkbox"/> Other: |
| <input type="checkbox"/> Intermittent | |

Pulmonary assessments:

- | | |
|--|---|
| <input checked="" type="checkbox"/> Eupneic | <input type="checkbox"/> Pulmonary Crackles |
| <input 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 | <input type="checkbox"/> Other auscultatory findings: |

Abdominal exam:

- | | |
|--|---|
| <input checked="" type="checkbox"/> Normal | <input type="checkbox"/> Abdominal distension |
|--|---|

☐ Hepatomegaly

☐ Mild ascites

Echocardiogram Findings:

General/2-D findings: There is decreased LV wall thicknesses. The LV cavity size is moderately increased. The LA is moderately enlarged. The contractile function is markedly reduced. Subjectively the PA is dilated. There is no pleural or pericardial effusion. No ascited.

Doppler findings: 1-2 + MR, Trace TR

Blood Pressure (mmHg):

Cuff size: #4

Limb: RH

70mmHg

ECG findings:

atrial fibrillation with occasional isolated LV origin VPCs

Radiographic findings:

No signs of pulmonary edema

Assessment and recommendations:

DCM with atrial fibrillation and hypotension. The radiographics and physical exam does not suggest that the patient is currently in CHF, but the LA is enlarged enough that I would be worried that he could go into CHF shortly. The patient is also hypotensive. Recommend starting pimobendan 10mg TID, recheck BP tonight to see BP is improved and if dose needs to be increased. Also recheck T4 level. Ideally we can get a taurine level (Whole blood). Start taurine supplementation 1000mg BID. Change diet to non-grain free. Monitor RR/RE at home. Because of the hypotension, I hesitate to start diltiazem at this time. The dog's HR is not that high at this time, so we can wait until BP is improved become considering diltiazem. Recheck ECG and BP 1 week after discharge.

Final Diagnosis:

DCM, atrial fibrillation

Heart Failure Classification Score:

ISACHC Classification:

☐ Ia

☒ Ib

☐ II

☐ IIIa

☐ IIIb

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

LVID A4C

LVEDV MOD A4C

LVLs A4C

LVESV MOD A4C

LVEF MOD A4C

SV MOD A4C

Doppler

MR Vmax

MR maxPG

MV E Vel

PV Vmax

PV maxPG

AV Vmax

AV maxPG

B6

cm

cm

cm

cm

cm

cm

%

cm

cm

cm

cm

cm

cm

cm

ml

cm

ml

%

ml

m/s

mmHg

m/s

m/s

mmHg

m/s

mmHg

B4, B6

B4, B6

Emergency & Critical Care **B4, B6**

Patient

Name:

B6

Signalment:

**10.02 Years Old White/Yellow
Male (Neutered) Bulldog Cross**

Owner

Name:

Address:

B6

Patient ID:

B6

Emergency Clinician:

B4, B6

DVM (Resident - Cardiology)

Consulting Clinician:

ER Supervisor:

B6

Discharge Instructions

Admit Date: **B6** **4:55:40 PM**

Check Out Date: **B6**

Case Summary

B6

B6

Recommended Medications:

Pimobendan 10mg - give 1 tablet every 8 hours.

Pimobendan is a drug that has been shown to improve both quality and of life and survival time of dogs with heart failure. The drug increases the vigor of contraction of the heart. Side effects are uncommon but can include excitability or intestinal upset.

NEXT DOSE DUE: tonight.

Taurine 1000mg - give 1 tablet (1000mg) orally every 12 hours. Taurine is an amino acid that its deficiency has been shown to be associated with heart disease.

NEXT DOSE DUE: tonight.

Cerenia 60mg - give 1/2 tablet (30mg) every 24 hours.

Cerenia is an anti-nausea medication.

NEXT DOSE DUE: tonight.

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 [B6](#)

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:

B6

Thank you for entrusting us with [B6] care. Please contact our Cardiology liaison at [B4, B6] or email us at [B4, B6] for scheduling and non-emergent questions or concerns.

Please visit our [B4, B6] website for more information
[B4, 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 [B4, B6] 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: [B4, B6]

Case [B6]

Owner: [B6]

Discharge Instructions

Fax: Admin
Fax: Referral**B4, B6****B4, B6**Small Animal **B6**
Large Animal **B6**

Discharge Comments

Client B6	Patient B6 MIXED BREED DOG FS BLACK & TAN CANINE	Case # B6 15.9 kg	Attending DVM Student Discharging DVM Referring DVM B6
---------------------	--	-----------------------------	---

Admission Date/Time: **B6** 8:41 AM Discharge Date/Time: **B6** 01:35 PM Discharge Status: UNDETERMINED

CASE SUMMARY

DIAGNOSIS:

1. Dilated cardiomyopathy (DCM): rule out diet induced vs hypothyroidism vs primary (idiopathic)

HISTORY:

B6 is an approximately 4 year old female spayed mixed breed dog who was presented to **B6** Cardiology on **B6** for evaluation of a new heart murmur and suspected dilated cardiomyopathy.

B6 was presented to **B6** on 10/2/18 for a wellness exam and annual bloodwork, and a new II/VI left apical systolic murmur was noted on physical exam. **B6** CBC showed mild thrombocytopenia (121k on automated count), and no abnormalities on serum chemistry. **B6** was then presented to **B6** on 10/13/18 for a reevaluation of her murmur. Chest radiographs revealed generalized moderate to severe cardiomegaly with normal pulmonary vasculature and lung fields. A limited ultrasound of the heart reportedly revealed dilation of all four heart chambers with poor myocardial contractility. **B6** was then referred to **B6** Cardiology for suspected grain-free diet related DCM. Her diet was switched to Purina ProPlan dry kibble and she was started on taurine (500 mg PO BID) and L-carnitine supplementation (1g PO BID). For the last 3 months, **B6** has had an occasional single dry, non-productive cough once weekly when playing with her puppy housemate. **B6** has not experienced any lethargy, decreased appetite, exercise intolerance, respiratory distress or fainting. **B6** resting respiratory rate has been between 13 to 24 breaths per minute since 10/13/18.

B6 was adopted from a shelter in **B6** three years ago and was estimated to be one year old at that time. **B6** experienced diarrhea and vomiting in the first 2 months after adoption and was started on a grain-free, chicken-free diet. **B6** diarrhea and vomiting resolved after the diet switch. Her diet history is as follows: Nature's Variety Instinct Limited Ingredient Lamb (11/2015 - 11/2017); Blue Buffalo Turkey + Potato or Lamb + Potato (11/2017 - 8/2018); American Journey Lamb + Sweet Potato Limited Ingredient Grain-Free (8/2018 - 10/2018). **B6** has had no other significant medical history since adoption and is not on any prescription medications. She is eating, drinking, urinating and defecating normally and has had no episodes of vomiting. **B6** is on Heartgard and Nexgard parasite prevention and up to date on all vaccines.

Current Diet: Purina Pro Plan Adult Lamb and Rice - dry kibble

Current Medications: None

Current Supplements: Taurine 500mg q12hr (GMC brand tablets), L-carnitine 1000mg q12hr (GMC brand tablets)

PHYSICAL EXAM FINDINGS:

B6

RESULTS OF DIAGNOSTIC TESTS:

B6

B6

PENDING DIAGNOSTIC TESTS:

B6

ASSESSMENT:

Thank you for entrusting us with **B6** care today. Today, **B6** was diagnosed with dilated cardiomyopathy (DCM). DCM is a disease that affects the muscle of the heart and causes a decrease in the contractility (pumping ability) of the heart. Because the heart is unable to pump with enough force to move blood adequately forward into circulation, a volume overload occurs and the heart dilates to accommodate it. Subsequently, the chambers of the heart become enlarged and the mitral valve leaflets are pulled slightly apart, resulting in back-flow of blood (mitral regurgitation) and the heart murmur ausculted on **B6** physical exam. **B6** echocardiogram today showed mild to moderate dilation of her heart chambers, mild mitral valve regurgitation and mild to moderately diminished pumping ability of her heart.

While the exact mechanism of DCM is currently unknown, dietary deficiencies in the amino acids taurine and carnitine, genetics, infectious and inflammatory conditions, and toxins have all been linked to DCM. Since **B6** is an atypical breed to develop primary (hereditary) DCM and has been on a grain-free diet for the last 3 years, we are concerned for a possible diet associated DCM. This is a diagnosis of exclusion, so to rule out other causes, blood was drawn today for a troponin level and for thyroid testing. Troponin is a biomarker for damage to the muscle of the heart and is elevated in cases of myocarditis, which can be caused by many things including infectious or inflammatory disease. **B6** troponin level was normal, so an infectious or inflammatory cause of her DCM is unlikely. Thyroid testing was also submitted today, as hypothyroidism can be another cause of DCM.

There has been recent unpublished data suggesting a link between some grain-free diets and cardiomyopathy. Although some of these cases seem related to taurine/carnitine deficiency, others do not, and the reason for this link is not yet clear. Although the mechanism has not been confirmed, one hypothesis is that phytic acid, produced by legumes and lentils (common ingredients in grain-free diets) decreases the absorption of taurine and other essential nutrients from the intestines into the bloodstream. Some animals will show reversibility of their heart disease with supplementation of taurine and carnitine and initiation of a grain-containing diet.

B6

INSTRUCTIONS FOR CARE

B6

B4, B6

Owner/Agent

B4, B6

B6

Clinicians:

Clinical Technicians:

Client Services:

B4, B6

B4, B6

B4, B6

Research Technician

B4, B6

In order to help expedite medication refills, please visit us online at **B4, B6** and select Pet Owners, Pharmacy Refills.

B6

MIXED BREED

B4, B6

B4, B6

B6

CANINE
23, FS

B6

MIXED BREED DOG
B6 BLACK & TA
113791

MIXED BREE

B6

B6

CARDIOLOGY SERVICE
Patient Discharge Instructions

Admission date: **Wednesday, October 17, 2018**

Reason for visit: Murmur evaluation, suspect dilated cardiomyopathy (DCM)

Diagnosis/Problem: Dilated cardiomyopathy, suspect diet related

Treatments and diagnostic tests performed: Troponin level (pending), taurine level (pending), T4/TSH (pending), platelet count, echocardiogram

Medications:

B6

Instructions for care: Continue to monitor **B6** for increased respiratory rate and effort, exercise intolerance, fainting, lethargy, decreased appetite, coughing, and abdominal distension. If you note any of these signs, **B6** should be evaluated by a veterinarian immediately. Continue to monitor **B6** resting respiratory rate by counting her number of breaths per minute while she is laying down or sleeping. A normal resting respiratory rate for a dog is less than 30-40 breaths per minute.

Plan for next evaluation: Please schedule an appointment with **B4, B6** Cardiology in 3 months by calling **B4, B6**

B4, B6

B4, B6

B4, B6

Thank you for allowing us to care for you and your pet. If you have any questions or concerns, please do not hesitate to call the **B4, B6** Cardiology Service at **B4, B6**. For prescription refills **B6**.

- ☐ Owner requests full report (Full Summary Automatically Sent To Primary DVM)
☐ This is the full report to be sent to the primary DVM

Faculty:

- ☐
☐
☐
☐
☐

B4, B6

Residents:

- ☐
☐

B4, B6

Research Technician:

B4, B6

Clinical Technicians

B4, B6

Client Services

B4, B6

B4, B6

B4, B6

REPORT OF LABORATORY EXAMINATION

Client:

B6

Owner:

B6

Rcvd Date: 10/18/2018 4:31:00 PM
Admitted By: Not Provided
Ordered By: N/A
Encounter: 02540503
CR#: AP

Animal: **B6**
Species: Canine
Age: 3 years
Tag/Reg ID:
Other ID:

MRN: **B6**
Breed: Dog Mixed Breed
Gender: Female, Spayed

Endocrinology

Endocrine Results

Collected Date/Time
(If Provided) 10/17/2018
16:39:00

Procedure

B6

Ref Range	Units
[11-60]	nmol/L
[0.8-2.1]	nmol/L
[9-39]	pmol/L
[0-20]	%
[0-10]	%
[0.00-0.58]	ng/mL
[0-35]	%

Endocrinology Interpretation

See Below

B6

L = Low Result; H = High Result; @ = Critical Result; ^ = Corrected Result; * = Interpretive Data; # = Result Footnote

Print Date/Time: 10/23/2018 10:31 AM

Page 1 of 1

B4, B6

Cardiology Pet Diet History

231020
CANINE
FS

B6

MIXED BREED DOG
12/24/14 BLACK & TA
113791

MIXED BREE

Date: 10/16/18

B6

B6

Current diet:

Brand American Journey Lamb & Sweet Potato

Variety Limited Ingredient Grain-Free

Is this diet Grain-free? Yes

How long has your pet eaten this food? 3 months (Aug 18 - Oct 18)

Are there other pets in your house eating this food? Yes, puppy version for 5 mo.
Goldendoodle, **B6**

Other diets eaten in the last 3 years and dates:

(Nov 17 - Aug 18) Blue Buffalo - different versions of basic, lifesource & freedom (mostly basics) <sup>Turkey + Potato
Lamb + Potato</sup>

(Nov 15 - Nov 17) Nature's Variety Instinct Limited Ingredient Lamb

- First 2 months after adoption tried 2 or 3 foods that caused major diarrhea & vomiting
so claimed allergic to chicken and started on grain-free, chicken-free diet. No more D or V.

Other food (treats, rawhides, table food):

No rawhides. Not too many treats. Occasional table food (rare).

Have given Better Belly chews, dental chews (milkbone, pentastix, Nylabone NutriDent)

Supplements (e.g. fish oil, CoQ10, vitamins etc)

↳ all very few and far between.

None -

B4, B6**B4, B6**

10/17 @ 9:00

PH#: 123919

Cardiology-Consult

1 message

RADSIN EMAIL**B4, B6**

Consult Request <

B6

To:

B4, B6**B4, B6****B4, B6**

Sat, Oct 13, 2018 at 2:29 PM

Automated message. Do not reply to sender, see below for clinic/client e-mail.

What is your
preferred
contact
method?:

By Phone

Best hours to
contact:

MTWTF 8a-6p

Veterinarian to
contact:

B6

Clinic/Hospital:

B6

Clinic Phone
Number:

B6

Clinic Email:

B6

Name of the
owner

B6

(First/Last):

Owner Phone:

B6

Owner Email:

B6

Has this
patient ever
been seen by
any service at

No

NC State
Veterinary
Hospital?:

Patient/Pet
Name:

B6

Species:

canine

Date of Birth
or Age:

B6

Breed:

mixed breed

Weight:

35.7lbs

Color:

black/tan

Gender:

FS

Pertinent
medical
history:

Questions you
would like
addressed:

Would like referral for echocardiogram at **B6** ASAP- suspect grain-free diet related DCM. Client amenable to referral. On grain free diet past 3-4 years. New heart murmur first noted last week at a different veterinary office. Seen today by our hospital first time for second opinion. Grade 2-3/6 L systolic murmur, NSR. Respiratory: WNL, no crackles/wheezes. Eupnic. Does not appear to be in CHF. Not currently on any medications aside from Nexguard and Heartguard. Advised Taurine 500mg PO BID and L carnitine- 1gram PO BID and change to diet containing grains while awaiting echo. Discussed monitoring for signs of impending CHF and when to seek emergency care.

Chest rads- Generalized moderate to severe cardiomegaly. Lungs appear WNL.

Brief cardiac US (by me)- All 4 chambers appear subjectively enlarged/dilated. Myocardium appears subjectively thin with POOR contractility. No pericardial effusion detected. Suspect DCM.

Red slot
11/14

10/17 9AM
~~11PM~~

3 branches - of late.
Am journey Salm + SwPot

16.2 kgf

B6

Patient History Report **B6** 10/15/2018

Clinic:

B6

B6

Client:

B6

Home Phone: **B6**

Work Phone: **B6** xcell

ID: **B6** File #: 386

Patient: **B6**

ID: **B6**

Tag:

Species: Canine, Mixed breed

Sex: female/spayed

Age: 4 yrs, DOB: **B6**

Weight: 35.7 Lbs

Color: Black/tan markings

Last visit: 10/13/2018

Referred By:

Medical Record Entries:

10/15/2018

Referral - SW **B6** fit into redslot- 1 month

-save diet and bring it in to appointment. CHange diet to one with grain in it

Taurine- 40mg/kg 640mg/day (250 and 500ok too)

L-carnitine- ???

does O need to call (**B6**)

10/15/2018

See Attachments - Blood Work Downtown **B6** Animal Hospital (**B6**)

10/13/2018

Consultation with specialist - Sent to **B6** Cardiology:

Would like referral for echocardiogram at **B6** ASAP- suspect grain-free diet related DCM. Client amenable to referral. On grain free diet past 3-4 years. New heart murmur first noted last week at a different veterinary office. Seen today by our hospital first time for second opinion. Grade 2-3/6 L systolic murmur, NSR. Respiratory: WNL, no crackles/wheezes. Eupnic. Does not appear to be in CHF. Not currently on any medications aside from Nexguard and Heartguard. Advised Taurine 500mg PO BID and L carnitine- 1gram PO BID and change to diet containing grains while awaiting echo. Discussed monitoring for signs of impending CHF and when to seek emergency care.

Chest rads- Generalized moderate to severe cardiomegaly. Lungs appear WNL. Brief cardiac US (by me)- All 4 chambers appear subjectively enlarged/dilated. Myocardium appears subjectively thin with POOR contractility. No pericardial effusion detected. Suspect DCM. Bloodwork performed recently by another vet hospital- WNL per owner (Copies unavailable today- Saturday).

- Earliest appointment client can be seen?
- Additional medications or changes in dosages of supplements to prevent CHF while awaiting referral?
- Rads and video of cardiac US will be sent by email on Monday (when support staff available).

B6

10/13/2018

Ultrasound Consult Fee - Cardiac US- All 4 chambers appear subjectively

enlarged/dilated. Myocardium appears subjectively thin with poor contractility. No pericardial effusion detected. Suspect DCM [B6]

10/13/2018

Radiographs-Two Views - 3 view thorax- Generalized moderate to severe cardiomegaly. Lungs appear WNL. Suspect DCM [B6]

10/13/2018

Weight in lbs. - (35.7) [B6]

10/13/2018

Examination/Office Call - [B6]

Chief Complaint: second opinion, heart murmur

History: 2nd opinion- heart murmur. Adopted approx. 3 years ago, think she was around 9 months at time of adoption. Pretty healthy past few months- had diarrhea occasionally in first year, improved once she eliminated chicken and grains from the diet. 1 week ago- diagnosed with a heart murmur for the first time at [B6] Prior to that, has been to multiple vets and they have never mentioned a heart murmur.

Occasionally coughs, mostly when excited (when pulling on the leash/collar, but also sometimes when playing off leash).

Diet- American Journey Salmon and sweet potato (grain free). Has always been on a grain-free diet.

On Heartguard and Nexguard, O gives every month, regularly.

B6

B6

MIXED BRED

B4, B6

B4, B6

SCANNED

B6

Acct Number:
Address.....:

B6

Phone.....:
Cell Phone.....:

- ext:

Outstanding Balance: \$ \$

B6

Medical Alert:

Sex.....: FS

DOB.....: B6

Species...: Canine

Weight: 35.6lbs.

Breed...: Lab Mix

Problem
(s)DateDiagnosesDateVaccine NameDate Due

B6

10/03/2018

Note

Records transferred to

B6

Provider:

B6

10/02/2018

Service

CET HEXtra Premium Chews Med. QTY: 1
Dog 30-Ct

Provider: Hospital Personnel

10/02/2018

LINK

New Client Form

10/02/2018

Service

Junior Wellness - Comprehensive QTY: 1
Profile

Provider:

B6

10/02/2018

Service

CBC (Complete Blood Count) QTY: 1

Provider:

B6

B6

MIXED BREE

From B6

Mon Oct 15 07:30:37 2018 MST

B6

B6

10/02/2018

SOAP

Wellness Visit

Provider: B6

S: Presenting Complaint: B6 is here for a wellness exam.
Current on vaccines, no concerns, E/D ok, no V/D

Medications received: None

Preventatives received: Nexgard and Heartgard

Diet: American Journey

O: Weight- 35.6 lbs

PHYSICAL EXAM

B6

B6

DIAGNOSTICS
CBC/Chem: NSF

A: healthy pet, murmur very mild and not a concern at this time

P: dental cleaning will be important for maintaining heart health

10/02/2018 **Lab Value** Temperature: = 101.20

10/02/2018 **Service** Exam - Pet Wellness QTY: 1

Provider: B6

Comprehensive Diagnostic

10/02/2018 02:51 PM

ALB
ALP
ALT
AMY

B6

2.5-4.4 g/dL
20-150 U/L
10-118 U/L
200-1200 U/L

From B6

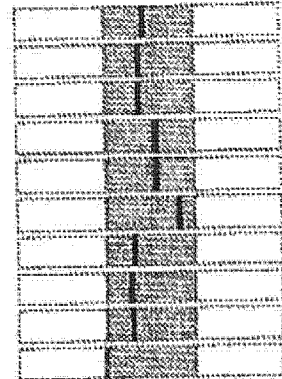
Mon Oct 15 07:30:37 2018 MST

B6**B6**

TBIL
BUN
CA
PHOS
CRE
GLU
NA+
K+
TP
GLOB

B6

0.1-0.6 mg/dL
7-25 mg/dL
8.6-11.8 mg/dL
2.9-6.6 mg/dL
0.3-1.4 mg/dL
60-110 mg/dL
138-160 mmol/L
3.7-5.8 mmol/L
5.4-8.2 g/dL
2.3-5.2 g/dL

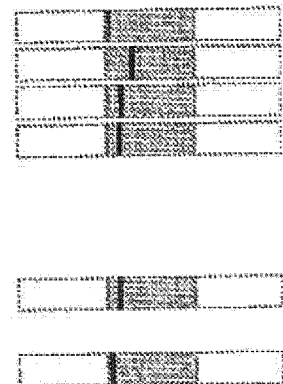
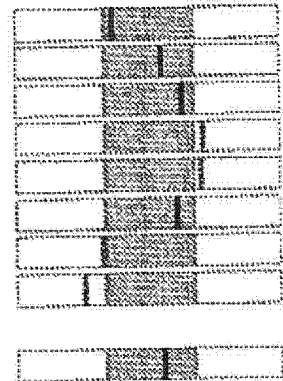
**Abaxis VetScan HM5**

10/02/2018 02:45 PM

WBC
RBC
HGB
HCT
MCV
MCH
MCHC
PLT
PCT
MPV
PDWs
PDWc
RDWs
RDWc
LYM
MON
NEU
LY%
MO%
NE%
EOS
EO%
BAS
BA%

B6

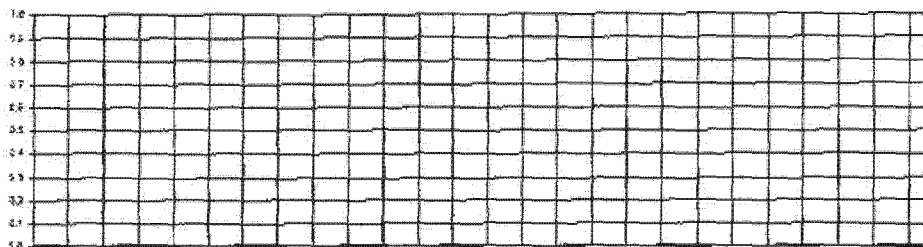
6.00-17.00 $10^9/l$
5.50-8.50 $10^{12}/l$
12.0-18.0 g/dl
37.00-55.00 %
60- 77 fl
19.5-24.5 pg
31.0-39.0 g/dl
165- 500 $10^9/l$
%
3.9-11.1 fl
fl
%
fl
14.0-20.0 %
1.00-4.80 $10^9/l$
0.20-1.50 $10^9/l$
3.00-12.00 $10^9/l$
%
%
%
0.00-0.80 $10^9/l$
%
0.00-0.40 $10^9/l$
%



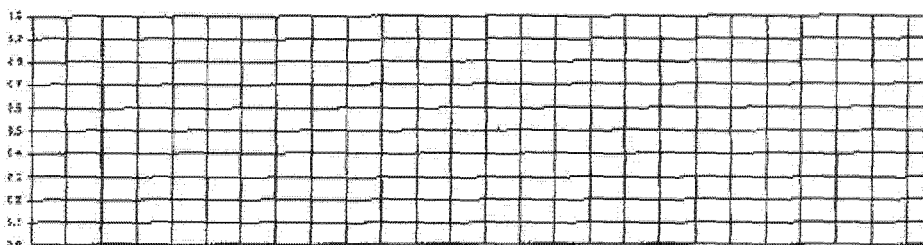
B6

B6

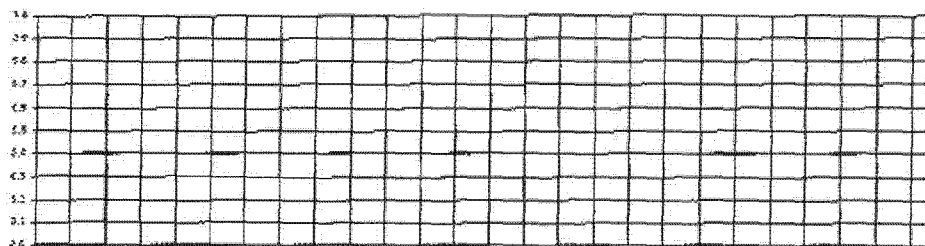
WBC Hist



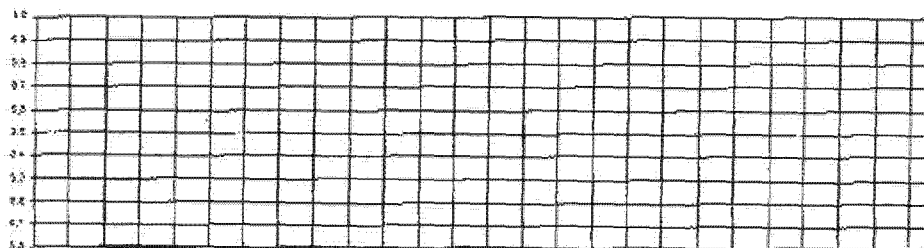
RBC Hist



EOS Hist



*PLT Hist



09/25/2018

[LINK](#)

Records Cont.

09/25/2018

[LINK](#)

Records

B6

CANINE
FS

B6

MIXED BREED DOG

B6

BLACK & TA

MIXED BREE

B6

10/15/2018 10:43
From

B6

B6

PAGE 05/05

B6

B6

For any questions on B6 health, please call B6

B6

MIXED BREE

B6**B6**

B6

Acct Number:

Address:

B6

Phone:

Cell Phone:

() ext:

- ext:

Outstanding Balance: \$ \$

B6

Medical Alert:

Sex: FS

DOB: B6

Species: Canine

Weight: 35.6lbs.

Breed: Lab Mix

Problem
(a)**Date****Diagnoses****Date****Vaccine Name****Date Due****B6**10/02/2018 **Service** CET HEXtra Premium Chews Med. QTY: 1
Dog 30-Ct**Provider:** Hospital Personnel10/02/2018 **LINK** New Client Form10/02/2018 **Service** Junior Wellness - Comprehensive QTY: 1
Profile**Provider:** B610/02/2018 **Service** CBC (Complete Blood Count) QTY: 1**Provider:** B6**SCANNED**
B6

10/4/18

B6

CANINE

FS

B6

MIXED BREED DOG

B6

BLACK & TA

MIXED BREE

B6

B6**B6**

10/02/2018

SOAP

Wellness Visit

Provider:

B6

S: Presenting Complaint: B6 is here for a wellness exam.
Current on vaccines, no concerns, E/D ok, no V/D

Medications received: None

Preventatives received: Nexgard and Heartgard

Diet: American Journey

O: Weight- 35.6 lbs

PHYSICAL EXAM**B6****B6****DIAGNOSTICS**

CBC/Chem: NSF

A: healthy pet, murmur very mild and not a concern at this time

P: dental cleaning will be important for maintaining heart health

10/02/2018

Lab Value

Temperature = 101.20

10/02/2018

Service

Exam - Pet Wellness

QTY: 1

Provider:

B6

09/25/2018

LINK

Records Cont.

09/25/2018

LINK

Records

For any questions on B6 health, please call B6

Information for Lark & Morgan

Page 2 of 2

10/15/2018 11:35AM (GMT-04:00)

Patient History Report

Client:
Phone:
Address:

B6

Patient: B6
Species: Canine
Age: 3 Yrs. 8 Mos.
Color: Black/TanBreed: Mixed
Sex: Spayed Female

Date	Type	Staff	History
------	------	-------	---------

8/4/2018 I

B6

8/4/2018 CK

B6

8/4/2018 V

B6

8/4/2018 L

B6

8/4/2018 L

B6

8/4/2018 B
8/4/2018 B
8/4/2018 B
8/4/2018 B
8/4/2018 B
7/30/2018 P

B6

B6

B: Billing, C: Med note, CB: Call back, CK: Check-in, CM: Communications, D: Diagnosis, DH: Declined to history, E: Exam, I: Departing instr, L: Lab result, M: Image cases, P: Prescription, PA: PVL Accepted, PB: Problem, R: Correspondence, T: Images, TC: Tentative medl note, V: Vital signs

B6

B6

CANINE

B6

MIXED BREED DOG
BLACK & TA

B6

B6

MIXED BREED

6:37 PM

B6

Patient History Report

Client:
Phone:
Address:

B6

Patient: B6
Species: Canine
Age: 3 Yrs. 8 Mos.
Color: Black/TanBreed: Mixed
Sex: Spayed Female

Date	Type	Staff	History
------	------	-------	---------

7/30/2018 P

B6

7/27/2018 P

B6

7/27/2018 P

B6

B6

7/23/2018 TC

B6

Signed Consents - TENTATIVE

7/23/2018 TC

B6

Signed Estimate/Drop Off - TENTATIVE

7/20/2018 TC

B6

PDVM - TENTATIVE -

B6

CANINE VACCINES & LAB- ** Please type below when vaccines or tests were actually Given at B6 - Not when they are due ******* RECEPTION FULL NAME (NOT YOUR INITIALS) OF WHO PUT IN PDVM OF DATES VACCINES GIVEN : B6**

B: Billing, G: Med note, CB: Call back, CK: Check-in, CM: Communications, D: Diagnosis, DH: Declined to history, E: Examination, I: Departing instr, L: Lab result, M: Image cases, P: Prescription, PA: PVL Acc, R: Correspondence, T: Images, TC: Tentative

B6

B6
CANINE
ESB6
MIXED BREED DOG
BLACK & TA

MIXED BRE

37 PM

B6

Patient History Report

Client:
Phone:
Address:

B6

Patient: B6
Species: Canine
Age: 3 Yrs. 8 Mos.
Color: Black/Tan

Breed: Mixed
Sex: Spayed Female

Date	Type	Staff	History
------	------	-------	---------

☒ CANINE RABIES Date Given: 09/09/16 -
☐ CANINE RABIES Date Given: -
☐ CANINE RABIES Date Given: -
☐ CANINE RABIES Date Given: -

Manufacturer: 1 or 3 year: 3

Manufacturer: 1 or 3 year:

Manufacturer: 1 or 3 year:

Manufacturer: 1 or 3 year:

☒ DHPP Date Given: 09/09/16 - ☐
☐ DHPP Date Given: - ☐
☐ DHPP Date Given: - ☐
☐ DHPP Date Given: - ☐

Manufacturer: 1 or 3 year: 3

Manufacturer: 1 or 3 year:

Manufacturer: 1 or 3 year:

Manufacturer: 1 or 3 year:

☐ LEPTO Date Given: -
☐ LEPTO Date Given: -

☒ BORDETELLA Date Given: 4/17/2017 - ☒ Intranasal ☐ Oral ☐ Injectable
☐ BORDETELLA Date Given: - ☐ Intranasal ☐ Oral ☐ Injectable

☐ CIV Date Given: -
☐ CIV Date Given: -
☐ CIV Date Given: -

☒ HEARTWORM TEST Date Given: 09/08/17 - ☒ Negative ☐ Positive
☐ HEARTWORM TEST Date Given: - ☐ Negative ☐ Positive

☒ FECAL Date Given: 12/21/2017 - ☒ Negative ☐ Positive
☐ FECAL Date Given: - ☐ Negative ☐ Positive
☐ FECAL Date Given: - ☐ Negative ☐ Positive

☐ DEWORMING Date Given: - Type: -
☐ DEWORMING Date Given: - Type: -
☐ DEWORMING Date Given: - Type: -

MIXED BRE

B6

7/19/2018 C

DZZ

Canine/Feline Exam - CLOSED 08/02/2018

B6

DVM

Wt: 35.2

Reason for visit: O lacerated L cranial flank fold while grooming

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 3 of 9

Date: 8/29/2018 6:37 PM

Patient History Report

Client:
Phone:
Address:

B6

Patient: B6
Species: Canine
Age: 3 Yrs. 8 Mos.
Color: Black/TanBreed: Mixed
Sex: Spayed Female

Date	Type	Staff	History
------	------	-------	---------

Temp/Pulse/Resp: 101.8 / 130 / 40

B6

B6

CANINE

B6

MIXED BREED DOG

MIXED BRE

B6

7/19/2018 P

B6

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: Imaging 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 4 of 9

Date: 8/29/2018 6:37 PM

Patient History Report

Client:
Phone:
Address:

B6

Patient: B6
Species: Canine
Age: 3 Yrs. 8 Mos.
Color: Black/TanBreed: Mixed
Sex: Spayed Female

Date	Type	Staff	History
------	------	-------	---------

7/19/2018 P

B6

7/19/2018 P

B6

7/19/2018 CK

B6

7/19/2018 V

B6

7/19/2018 B

7/19/2018 B

7/19/2018 B

7/19/2018 B

7/19/2018 B

7/19/2018 B

7/19/2018 B

7/19/2018 B

7/19/2018 B

B6

B6

8/4/2017 TC

B6

OVERDUE REMINDER CALL - TENTATIVE
overdue reminder call UMOM for O to schedule apt

9/19/2016 TC

B6

Overdue reminder call - TENTATIVE
UMOM about overdue reminders

9/7/2016 TC

B6

faxed records - TENTATIVE
Faxed records to B6 5:15p

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 5 of 9

Date: 8/29/2018 6:37 PM

Patient History Report

Client:	B6	Patient:	B6
Phone:		Species:	Canine
Address:		Age:	3 Yrs. 8 Mos.
		Color:	Black/Tan
		Breed:	Mixed
		Sex:	Spayed Female

Date	Type	Staff	History
8/1/2016	C	B6	RR - FINAL 08/01/2016

7/30/2016	C	B6	Canine Exam - CLOSED 08/29/2016
Canine Exam Date: 7/30/2016 Patient Name: B6 B6 Mixed 37 pounds Spayed Female B6 DVM Technician B6			

To be completed by Technician

Reason for visit: to establish relationship for Bravecto	
History (Subjective):	
Is your pet having any problems?	All things are good. O wants Bravecto for P. O will do vx towards end of Sept 2016. Current on Tri-heart. Nature's Variety lamb/pea dry food.

To be completed by DVM

Exam (Objective):	
Nose and Throat <input type="checkbox"/> Normal <input type="checkbox"/> Did Not Exam <input type="checkbox"/> Abnormal Remarks: ____	Mouth/Teeth/Gum <input type="checkbox"/> Normal <input type="checkbox"/> Did Not Exam <input type="checkbox"/> Abnormal Remarks: ____
Eyes and Ears <input type="checkbox"/> Normal <input type="checkbox"/> Did Not Exam <input type="checkbox"/> Abnormal Remarks: ____	Coat and Skin <input type="checkbox"/> Normal <input type="checkbox"/> Did Not Exam <input type="checkbox"/> Abnormal Remarks: ____
Lymph Nodes <input type="checkbox"/> Normal <input type="checkbox"/> Did Not Examine <input type="checkbox"/> Enlarged Remarks: ____ <input type="checkbox"/> Abnormal Remarks: ____	Musculoskeletal <input type="checkbox"/> Normal <input type="checkbox"/> Did Not Exam <input type="checkbox"/> Nail Trim <input type="checkbox"/> Abnormal Remarks: ____

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 6 of 9

Date: 8/29/2018 6:37 PM

Patient History Report

Client:	B6	Patient:	B6	Breed:	Mixed
Phone:		Species:	Canine	Sex:	Spayed Female
Address:		Age:	B6	Color:	Black/Tan

Date	Type	Staff	History
------	------	-------	---------

Nervous System <input type="checkbox"/> Normal <input type="checkbox"/> Did Not Examine <input type="checkbox"/> Abnormal Remarks: _____	Heart and Lungs <input type="checkbox"/> Normal <input type="checkbox"/> Did Not Examine Heart Murmur Grade ___/VI Murmur Comments: _____ <input type="checkbox"/> Abnormal Remarks: _____
GI Tract/Abdomen <input type="checkbox"/> Normal <input type="checkbox"/> Did Not Examine <input type="checkbox"/> Expressed Anal Glands <input type="checkbox"/> Abnormal Remarks: _____	Urinary and Genitals <input type="checkbox"/> Normal <input type="checkbox"/> Did Not Examine <input type="checkbox"/> Abnormal Remarks: _____
Additional Notes:	

To be Completed by DVM (Unless they are really backed up)

Vital Signs:

Add Vital Signs

To be completed by Technician

Wellness Services:

Rabies: 1yr ☐ 3yr ☐ Retag # ☐ UTD ☒ Declined ☐
 DHPP: 1yr ☐ 3yr ☐ # ☐ Titers ☐ UTD ☒ Declined ☐
 Lepto: # ☐ Annual ☐ UTD ☐ Declined ☐
 Bordetella: # ☐ 1yr ☐ UTD ☐ Declined ☐

Fecal: Accepted ☐ Declined ☐
 Heartworm Test: Accepted ☐ Declined ☐
 Wellness BW: 0-6 yrs ☐ Accepted ☐ Declined ☐
 > 6 yrs ☐

Note: Don't forget the Accept or declined boxes!

To be completed by DVM:

 Assessment: Add Diagnosis Description
 healthy pet

 Plan: examination for Bravecto, will have vx as a tech appt in a couple months.
 NT today.

7/30/2018 P

B6

1.00 pack of Bravecto Chews > 22.0 - 44.0 lbs (1534)

Rx #: 31558 0 Of 0 Refills Filled by: **B6**
 Give 1 chew by mouth every 12 weeks for prevention of fleas and ticks. GIVE
 WITH FOOD. FOR VETERINARY USE ONLY. KEEP OUT OF REACH OF
 CHILDREN

 B: Billing, C: Med note, CB: Call back, CK: Check-in, CM: Communications, D: Diagnosis, DH: Declined to history, E: Examination, ES: Estimates,
 F: 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 7 of 9

Date: 8/29/2018 6:37 PM

From B6

Patient History Report

Client:	B6	Patient:	B6
Phone:		Species:	Canine
Address:		Age:	3 Yrs. 8 Mos.
		Color:	Black/Tan
		Breed:	Mixed
		Sex:	Spayed Female

Date	Type	Staff	History
------	------	-------	---------

7/30/2016 C

B6

B6

FINAL 07/30/2016 - B6 Animal Care Shelter

☐ NO VAX HX IN B6

CANINE VACCINES

<input checked="" type="checkbox"/> DHPP	Date Given: 09/24/2015	-	<input type="checkbox"/> Booster	<input checked="" type="checkbox"/> 1 Year	<input type="checkbox"/> 3 Year	<input type="checkbox"/> W/Lepto
<input type="checkbox"/> DHPP	Date Given: _____	-	<input type="checkbox"/> Booster	<input type="checkbox"/> 1 Year	<input type="checkbox"/> 3 Year	<input type="checkbox"/> W/Lepto
<input type="checkbox"/> DHPP	Date Given: _____	-	<input type="checkbox"/> Booster	<input type="checkbox"/> 1 Year	<input type="checkbox"/> 3 Year	<input type="checkbox"/> W/Lepto
<input type="checkbox"/> DHPP	Date Given: _____	-	<input type="checkbox"/> Booster	<input type="checkbox"/> 1 Year	<input type="checkbox"/> 3 Year	<input type="checkbox"/> W/Lepto

☒ CANINE RABIES Date Given: 09/24/2015 - ☒ 1 Year ☐ 3 Year

Mfr: Boehringer Ingelheim

☐ CANINE RABIES Date Given: _____ - ☐ 1 Year ☐ 3 Year

Mfr: _____

☐ LEPTO Date Given: _____☐ LEPTO Date Given: _____☒ BORDETELLA Date Given: 09/24/2015 - ☐ Intranasal ☐ Oral ☒ Injectable☐ BORDETELLA Date Given: _____ - ☐ Intranasal ☐ Oral ☐ Injectable

LAB/HYGIENE

☒ DEWORMING Date Given: 09/24/2015 - Type: Pyrantel Pamoate☐ DEWORMING Date Given: _____ - Type: _____☐ DEWORMING Date Given: _____ - Type: _____☐ FECAL Date Given: _____ - ☐ Negative ☐ Positive: _____☐ FECAL Date Given: _____ - ☐ Negative ☐ Positive: _____☒ CANINE HEARTWORM TEST Date Given: 09/24/2015 - ☒ Negative ☐ Positive☐ CANINE HEARTWORM TEST Date Given: _____ - ☐ Negative ☐ Positive

7/30/2016 CK

B6

7/30/2016 V

B6

7/30/2016 B

B6

7/30/2016 B

B6

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 8 of 9

Date: 8/29/2018 6:37 PM

Patient History Report

Client:
Phone:
Address:

B6

Patient: B6
Species: Canine
Age: 3 Yrs. 8 Mos.
Color: Black/TanBreed: Mixed
Sex: Spayed Female

Date	Type	Staff	History
------	------	-------	---------

7/30/2016 B
7/30/2016 B
7/30/2016 B
7/18/2016 V

B6

B6

Weight 35.00 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 9 of 9

Date: 8/29/2018 6:37 PM

1 of 1

Reminder Letter Report
Sorted by Client ID

Client ID	Issued Name	Patient ID	Patient Name	Item ID/Description	Type	Date
5208	B6	B6	<div>B6</div>			26/12/2018
Phone						8/4/2019
						8/4/2019
						8/4/2019
						8/4/2019

B6

Page 1 of 1

Date: 8/29/2019

B4, B6**B4, B6**

Canine Echocardiography Report

Patient Name: **B6**

Medical Rec #: 231020

DOB: **B6**

Age: 3 years

Sex: **Fs**Sonographer: **B4, B6** DVM, DACVIM
(CA), DACVECCDate of Exam: **B6**

Breed: Mixed breed

Weight: 16 kg

BSA: 0.64 m²

HR:

BP-sys:

Report Status: READ

Diagnosis: Suspect Grain Free Diet Associated DCM, Decreased left ventricular systolic function;
Left ventricular dilation

Study Details: 2D Echo/Doppler/Color Doppler. The images were of adequate diagnostic quality. The patient was awake.

Additional Comments:

Dog presents for asymptomatic heart murmur.

2D
IVS
LV
LVPW

Diastole Systole

B62D
LA d
Ao s
LA/Ao**M-mode**

Diastole Systole

B6RV
IVS
LV
LVPW
LV normalized
LA
Ao
LA/Ao**B6**

Normal Canine M-mode values (in cm) for 15 kg dogs.

B6

Tissue Doppler: Medial

E'
A'
E'/E'
E'/A'**B6****B6**

MIXED BR

Final

B6

B6

B6

Aortic Valve:

VMax

Pk Grad

AoV

B6

B6

CANINE

FS

B6

MIXED BREED DOG

B6

BLACK & TA

MIXED BR

Mitral Valve:

Mn Grad

P1/2T

MV Area

B6

B6

Tricuspid valve:

TV E Max

TV Mn Grad

P 1/2 T

TV VTI

B6

Pulmonic valve:

Vmax

Pk Grad

PV AT

PV ET

PV AT/ET

B6

CLINICIAN INTERPRETATION:

B6

ECHO SUMMARY:

B6

CV Exam:

Cardiac auscultation revealed a systolic murmur of grade II-III/VI intensity loudest at the left apex.

Radiographs:

RDVM radiographs. No evidence of pulmonary edema. Left sided cardiomegaly.

Recommendations: Cause of dog's murmur is Mitral valve insufficiency due to MV annular stretch. MV anatomy is normal.

B6

B6

B6

B6

Since **B6** is an atypical breed for DCM and has been on grain free diet for last 3 years, we are concerned for possible diet associated DCM. Other causes are possible such as idiopathic, infectious/inflammatory, ischemic or hypothyroidism. Cardiac troponin and thyroid testing are pending. Blood for infectious disease has been banked if troponin is markedly elevated. Taurine concentrations are also pending but dog has been on new diet and taurine for last 4-5 days.

Recommend continuing with taurine 40 mg/kg per day and carnitine. Suggest adding pimobendan 5 mg am, 2.5 mg pm and recheck echo in 3 months. If changes are reversible then diet associated DCM is likely cause

B4, B6

DVM, DACVIM (CA), DACVECC

Electronically signed on

B6

on 2:07:37 PM

B6

B6

CANINE
FS

B6

MIXED BREED DOG

B6

BLACK & TA

MIXED BR

B6

Final

B6

B6

B6

B6

B6

MIXED DR

Report Details - EON-372842

ICSR: 2059630

Type Of Submission: Initial

Report Version: FPSR.FDA.PETF.V.V1

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

Reporting Type: Voluntary

Report Submission Date: 2018-12-04 18:53:33 EST

Reported Problem: **Problem Description:** DCM and CHF (cough developed earlier but diagnosed 11/29/18) Eating BEG diet Taurine pending Owner changing diet and we will recheck Note: listed as **B6** in medical record

Date Problem Started: 11/29/2018**Concurrent Medical Problem:** Yes**Pre Existing Conditions:** Hypothyroidism**Outcome to Date:** Stable**Product Information:** **Product Name:** Earthborn Meadow Feast dry**Product Type:** Pet Food**Lot Number:****Package Type:** BAG**Product Use Description:** See diet history in medical record for more info I have bag of food if interested in sample**Manufacturer /Distributor Information:****Purchase Location Information:****Animal Information:** **Name:** **B6****Type Of Species:** Dog**Type Of Breed:** Mixed (Dog)**Gender:** Female**Reproductive Status:** Neutered**Weight:** 19.9 Kilogram**Age:** 8 Years**Assessment of Prior Health:** Excellent**Number of Animals Given the Product:** 1**Number of Animals Reacted:** 1**Owner Information:** **Owner** Yes
Information provided:**Contact: Name:****Phone:****Email:****Address:****B6**

United States

Healthcare Professional Practice Name: Tufts Cummings School of Veterinary Medicine
Information:**Contact: Name:** Lisa Freeman**Phone:** (508) 887-4523

			Email: lisa.freeman@tufts.edu
		Address:	200 Westboro Rd North Grafton Massachusetts 01536 United States
Sender Information:	Name:	Lisa Freeman	
	Address:	200 Westboro Rd North Grafton Massachusetts 01536 United States	
	Contact:	Phone:	5088874523
		Email:	lisa.freeman@tufts.edu
	Permission To Contact Sender:	Yes	
	Preferred Method Of Contact:	Email	
Additional Documents:	Attachment:	rpt_medical_record_preview.pdf	
	Description:	Medical records	
	Type:	Medical Records	

B6

B6

All Medical Records

B6

Breed: Irish Setter

B6

Species: Canine

Sex: Male
(Neutered)

Referring Information

B6

Initial Complaint:

Emergency

SOAP Text **B6** 9:46AM - Clinician, Unassigned FHSA

Subjective

NEW VISIT (ER)

B6

Presenting complaint: Bivacutary effusion, respiratory distress

Referral visit? Yes

Diagnostics completed prior to visit

TFAST - Pleural fluid seen

AFAST - Abdominal fluid seen, sample taken

CXR - markedly enlarged R heart

HISTORY:

B6

Signalment: **B6** yo MC Irish Setter

Current history: 1 month ago started to have decreased appetite. Increased respiratory rate and effort, possibly positional. Intermittent liquidy brown diarrhea. Decreased energy level/exercise intolerance, increased thirst, collapsed after climbing a staircase this morning and that is when O went to rDVM. Normal urination, no c/s/v.

Ate a chipmunk recently.

Prior medical history: Recurrent facial cyst, removed surgically. Hx of Lyme.

Current medications: None

Diet: Ate Nutra-Ultra whole life, waning appetite past month

Vaccination status/flea & tick preventative use: UTD, monthly flea/tick/hw

Travel history: No

EXAM:

B6

BCS(1-9): 3

MCS(normal,mild,moderate,severe): mild

B6

ASSESSMENT:

B6

PLAN:

B6

B6

B6

Diagnostics/procedures:

B6

Cardiology Consult: Active biventricular heart failure likely 2o to severe DCM.

B6

B6

Client communication: Discussed with o that **B6** was in active biventricular heart failure and that this carried a poor long term prognosis. O was very upset but want to do all necessary to get **B6** out of heart failure now to management at home. Outlined treatment with lasix and pimo. O called for update and told him that P is still doing well. Breathing more easily after removing some of the fluid.

Deposit & estimate status:

B6

Resuscitation code (if admitting to ICU): yellow

B6

ADDENDUM:

- Due to error prescribed out pimobendan 5 mg tablets #12 rather than 10 mg #6. Changed orders to reflect this.

B6

SOAP Text **B6** 8:44AM - Clinician, Unassigned FHSA

B6 Daily SOAP

Subjective

B6 is an 11yo CM Irish Setter who presented **B6** to Tufts ER for dyspnea and was diagnosed with bicavitary effusion due to biventricular CHF. 3L abdominal effusion removed. Started on lasix and pimobendan yesterday. Hx of reported intermittent liquidy brown diarrhea and increased thirst (normal urination).

Did well O/N with RR between 16 and 32; low appetite.

Exam, cardiology

B6

B6

Overall impression since arrival or since last exam: Improved since admittance, no respiratory effort noted

Appetite: Eating 50% of food offered

B6

Diagnostics completed:

B6

Cardio consult: Active biventricular heart failure likely 2o to severe DCM.

B6

B6

Assessments

B6

Plan

B6

B6

Initial Complaint:

Recheck -

B6

SOAP Text

B6

12:05PM -

B6

B6

Initial Complaint:

Emergency

SOAP Text

B6

10:22AM

B6

Subjective

NEW VISIT (ER)

B6

Presenting complaint: dyspnea

Referral visit? No

Diagnostics completed prior to visit

B6

Cardiology Consult: Active biventricular heart failure likely 2o to severe DCM.

B6

HISTORY:

Signalment: 11YO MN red Irish Setter

Current history:

O reports **B6** has been coughing more oer the last few days. RR at night 40/min, drops to 20/min during the day. Concerned that his abdomen has got bigger in the last 24hrs and he didn't want to eat all his bfast this morning.

He was recently diagnosed here with DCM + CHF.

B6

EXAM:

B6

B6

B6

B6

Client communication:

B6

Deposit & estimate status: **B6**

Resuscitation code (if admitting to ICU): yellow

SOAP approved (DVM to sign): **B6** BVSc

SOAP Text O **B6** :03AM - Clinician, Unassigned FHSA

History:

B6 is an 11yo CM Irish Setter who presented **B6** to Tufts ER then again **B6** for dyspnea. Previously diagnosed with DCM and biventricular failure.

Subjective:

T: Not taken

B6

B6

Objective:

B6

ER Diagnostics:

B6

Assessments

B6

Plan

B6

B6

Initial Complaint:

PAGE ANTOON -

SOAP Text Oct 5 2018 4:07PM -

B6

B6

Initial Complaint:

Recheck: **B6**

SOAP Text Oct 12 2018 2:16PM **B6**

Initial Complaint:

Recheck - **B6**

SOAP Text Oct 19 2018 3:10PM - **B6**

Initial Complaint:

B6 tech - chem 21

SOAP Text Oct 31 2018 4:12PM **B6**

Disposition/Recommendations

B6

B6

Cummings
Veterinary Medical Center
AT TUFTS UNIVERSITY

B6

B6

Veterinarian:

B6

Visit ID:

Lab Results Report

B6

Species: Canine

Breed: Irish Setter

Sex: Male (Neutered)

Age: **B6** Years Old

Nova Full Panel-ICU

B6 9:58:25 AM

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	

B4

10/97

B6

Printed Friday, November 09, 2018

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**B6**

10:45:25 AM

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**B6**

:00:12 PM

B6

Test	Results	Reference Range	Units
WBC (ADVIA)	B6	4.4 - 15.1	K/uL
RBC(ADVIA)		5.8 - 8.5	M/uL
HGB(ADVIA)		13.3 - 20.5	g/dL
HCT(ADVIA)		39 - 55	%
MCV(ADVIA)		64.5 - 77.5	fL
MCH(ADVIA)		21.3 - 25.9	pg
MCHC(ADVIA)		31.9 - 34.3	g/dL
RDW (ADVIA)		11.9 - 15.2	
PLT(ADVIA)		173 - 486	K/uL
MPV (ADVIA)		8.29 - 13.2	fL
PLTCRT		0.129 - 0.403	%
RETIC(ADVIA)		0.2 - 1.6	%
RETICS (ABS) ADVIA		14.7 - 113.7	K/uL

Nova Full Panel-ICU**B6**

3:00:27 PM

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
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

B4

11/97

B6

Printed Friday, November 09, 2018

B6

CHLORIDE	B6	106 - 116	mEq/L
POTASSIUM		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
D.BILIRUBIN		0 - 0.1	mg/dL
I BILIRUBIN		0 - 0.2	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

Nova Full Panel-ICU**B6**

3:00:09 PM

B6

Test	Results	Reference Range	Units
SEGS%	B6	43 - 86	%
L YMPHS%		7 - 47	%
MONOS%		1 - 15	%
EOS%		0 - 16	%
SEGS (AB)ADVIA		2.8 - 11.5	K/uL
L YMPHS (ABS)ADVIA		1 - 4.8	K/uL
MONOS (ABS)ADVIA		0.1 - 1.5	K/uL
EOS (ABS)ADVIA		0 - 1.4	K/uL
WBC MORPHOLOGY		0 - 0	
No Morphologic Abnormalities			
RBC MORPHOLOGY		0 - 0	
No morphologic abnormalities			

Nova Full Panel-ICU**B6**

10:48:21 AM

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

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GLOBULINS	B6	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		B6	11:10:56 AM	B6	
Test	Results	Reference Range		Units	
TS (FHSA)	8	0 - 0		g/dl	
PCV **	48	0 - 0		%	
TS (FHSA)	8	0 - 0		g/dl	

Nova Full Panel-ICU		B6	3:44:13 PM	B6	
Test	Results	Reference Range		Units	
U COLLECT	B6	0 - 0			
U COLOR		0 - 0			
U TURBIDITY		0 - 0			
U SG		0 - 0			
U PH		0 - 0			
U PROTEIN		0 - 0			
U GLUCOSE		0 - 0			
U KETONES		0 - 0			
U BILIRUBIN		0 - 0			

B6

U HEME PROTEIN	B6	0 - 0			
U WBC		0 - 0		/hpf	
U RBC		0 - 0		/hpf	
U BACTERIA		0 - 0		/hpf	
U CRYSTALS		0 - 0		/hpf	

Nova Full Panel-ICU		9/21/2018 12:44:20 PM	B6	
Test	Results	Reference Range		Units

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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
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	B6	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

Nova Full Panel-ICU

9/21/2018 12:47:01 PM

B6

Test	Results	Reference Range	Units
TAURINE P	B6	60 - 120	nmol/mL
TAURINE WB		200 - 350	nmol/mL

Nova Full Panel-ICU

9/21/2018 12:48:52 PM

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

9/30/2018 12:27:25 PM

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

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GLUCOSE (POC)	B6	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
BEecf		0 - 0	mmol/L
BEb		0 - 0	mmol/L
A		0 - 0	mmHg
NOVA SAMPLE		0 - 0	
FiO2		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**B6**

12:47:03 PM

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**B6**

12:03:20 PM

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	

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T BILIRUBIN	B6	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

Nova Full Panel-ICU

10/5/2018 4:08:20 PM

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

Nova Full Panel-ICU

10/12/2018 2:16:21 PM

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

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GLOBULINS	<div>B6</div>	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	
Slight hemolysis,Slight lipemia			

Nova Full Panel-ICU

10/19/2018 4:04:21 PM

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	

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Nova Full Panel-ICU

10/31/2018 4:12:21 PM

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	

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Multi lead EKG 9/30/18

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Lab Image Taurine Panel 9/21/18

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Taurine Panel 9/21/18

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Vitals Results

9/17/2018 1:03:12 PM
9/17/2018 5:00:05 PM
9/17/2018 5:02:59 PM
9/17/2018 6:05:47 PM
9/17/2018 6:07:09 PM
9/17/2018 6:40:49 PM
9/17/2018 6:56:57 PM
9/17/2018 7:15:44 PM
9/17/2018 7:15:54 PM
9/17/2018 7:16:05 PM
9/17/2018 7:16:28 PM
9/17/2018 8:22:31 PM
9/17/2018 8:26:28 PM
9/17/2018 8:43:22 PM
9/17/2018 9:59:02 PM
9/17/2018 11:19:15 PM
9/18/2018 12:03:53 AM
9/18/2018 12:16:47 AM
9/18/2018 12:17:26 AM
9/18/2018 12:21:36 AM
9/18/2018 12:39:28 AM
9/18/2018 12:42:19 AM
9/18/2018 12:58:12 AM
9/18/2018 1:53:56 AM
9/18/2018 2:36:04 AM
9/18/2018 4:18:53 AM
9/18/2018 4:19:05 AM
9/18/2018 4:19:28 AM
9/18/2018 4:19:42 AM
9/18/2018 4:41:19 AM
9/18/2018 5:22:13 AM
9/18/2018 5:22:38 AM
9/18/2018 5:35:05 AM
9/18/2018 5:37:04 AM
9/18/2018 8:04:28 AM
9/18/2018 8:04:39 AM
9/18/2018 8:04:57 AM
9/18/2018 8:05:03 AM
9/18/2018 8:05:14 AM

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Vitals Results

9/18/2018 8:05:29 AM
9/18/2018 8:06:21 AM
9/18/2018 8:06:40 AM
9/18/2018 9:14:59 AM
9/18/2018 9:16:02 AM
9/18/2018 9:36:13 AM
9/18/2018 10:45:55 AM
9/18/2018 11:19:24 AM
9/18/2018 11:19:30 AM
9/18/2018 11:41:02 AM
9/18/2018 1:21:23 PM
9/18/2018 1:34:19 PM
9/18/2018 1:34:33 PM
9/18/2018 4:12:54 PM
9/18/2018 4:13:10 PM
9/18/2018 5:08:43 PM
9/18/2018 6:00:51 PM
9/21/2018 12:54:11 PM
9/30/2018 1:38:08 PM
9/30/2018 1:38:28 PM

9/30/2018 2:40:28 PM
9/30/2018 3:09:45 PM
9/30/2018 3:17:27 PM
9/30/2018 3:17:42 PM
9/30/2018 3:27:07 PM
9/30/2018 3:27:08 PM
9/30/2018 4:12:59 PM
9/30/2018 4:13:00 PM
9/30/2018 4:13:14 PM
9/30/2018 4:13:23 PM
9/30/2018 4:18:00 PM
9/30/2018 5:01:41 PM
9/30/2018 5:01:42 PM
9/30/2018 5:02:02 PM
9/30/2018 5:07:29 PM
9/30/2018 5:07:51 PM
9/30/2018 5:07:52 PM
9/30/2018 5:07:53 PM
9/30/2018 5:35:07 PM
9/30/2018 5:35:24 PM

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B6

Vitals Results

9/30/2018 5:43:02 PM
9/30/2018 5:58:05 PM
9/30/2018 5:58:12 PM

9/30/2018 5:58:39 PM
9/30/2018 5:58:40 PM
9/30/2018 6:57:23 PM
9/30/2018 6:57:24 PM
9/30/2018 7:08:46 PM
9/30/2018 7:09:01 PM
9/30/2018 7:23:22 PM
9/30/2018 7:49:52 PM
9/30/2018 7:50:51 PM
9/30/2018 7:51:05 PM

9/30/2018 7:51:06 PM
9/30/2018 7:59:51 PM
9/30/2018 8:02:31 PM
9/30/2018 9:15:56 PM
9/30/2018 9:16:06 PM
9/30/2018 9:16:07 PM
9/30/2018 9:18:39 PM
9/30/2018 9:55:59 PM
9/30/2018 9:56:13 PM
9/30/2018 9:56:14 PM
9/30/2018 9:56:45 PM
9/30/2018 9:56:59 PM
9/30/2018 10:57:00 PM
9/30/2018 10:57:30 PM
9/30/2018 11:08:05 PM
9/30/2018 11:08:06 PM
9/30/2018 11:52:45 PM
9/30/2018 11:52:46 PM
9/30/2018 11:53:01 PM
9/30/2018 11:53:13 PM
10/1/2018 12:32:18 AM
10/1/2018 12:46:37 AM
10/1/2018 1:10:40 AM
10/1/2018 1:10:41 AM
10/1/2018 1:10:52 AM
10/1/2018 1:11:02 AM

B6

B6

Vitals Results

10/1/2018 1:51:15 AM
10/1/2018 1:51:26 AM
10/1/2018 1:51:40 AM
10/1/2018 1:52:22 AM
10/1/2018 1:52:23 AM
10/1/2018 1:52:41 AM
10/1/2018 1:54:08 AM
10/1/2018 1:54:29 AM
10/1/2018 2:50:29 AM
10/1/2018 2:50:30 AM
10/1/2018 2:50:55 AM
10/1/2018 2:52:53 AM
10/1/2018 4:06:37 AM
10/1/2018 4:06:38 AM
10/1/2018 4:06:51 AM
10/1/2018 4:07:01 AM
10/1/2018 4:08:40 AM
10/1/2018 4:54:42 AM
10/1/2018 4:54:57 AM
10/1/2018 4:55:13 AM
10/1/2018 4:55:14 AM
10/1/2018 5:36:51 AM
10/1/2018 5:57:45 AM
10/1/2018 5:58:02 AM
10/1/2018 6:00:04 AM
10/1/2018 6:00:05 AM
10/1/2018 6:48:28 AM
10/1/2018 6:48:29 AM
10/1/2018 6:48:41 AM
10/1/2018 6:51:15 AM
10/1/2018 8:23:52 AM
10/1/2018 8:24:12 AM
10/1/2018 8:24:13 AM
10/1/2018 8:24:35 AM
10/1/2018 8:36:21 AM
10/1/2018 8:36:34 AM
10/1/2018 9:13:05 AM
10/1/2018 9:13:06 AM
10/1/2018 9:13:23 AM
10/1/2018 9:13:33 AM
10/1/2018 9:17:38 AM

B6

B6

Vitals Results

10/1/2018 9:21:44 AM

10/1/2018 9:22:17 AM

10/1/2018 10:20:18 AM

10/1/2018 10:20:19 AM

10/1/2018 10:20:34 AM

10/1/2018 10:22:08 AM

10/1/2018 11:07:38 AM

10/1/2018 11:07:39 AM

10/1/2018 11:13:05 AM

10/1/2018 12:04:43 PM

10/1/2018 12:06:57 PM

10/1/2018 12:53:17 PM

10/1/2018 12:53:38 PM

10/1/2018 1:24:48 PM

10/1/2018 1:24:49 PM

10/1/2018 1:25:00 PM

10/1/2018 1:25:17 PM

10/1/2018 1:26:44 PM

10/1/2018 2:00:20 PM

10/1/2018 2:02:32 PM

10/1/2018 2:02:33 PM

10/1/2018 2:03:03 PM

10/1/2018 2:06:03 PM

10/1/2018 3:46:00 PM

10/1/2018 3:54:51 PM

10/1/2018 3:54:52 PM

10/1/2018 4:12:28 PM

10/1/2018 4:12:45 PM

10/1/2018 4:48:46 PM

10/1/2018 4:53:24 PM

10/1/2018 4:53:25 PM

10/1/2018 5:10:05 PM

10/1/2018 5:10:55 PM

10/1/2018 5:28:46 PM

10/1/2018 6:02:40 PM

10/1/2018 6:21:56 PM

10/1/2018 6:21:57 PM

10/1/2018 6:50:24 PM

B6

B6

Vitals Results

10/12/2018 1:49:20 PM

10/19/2018 3:24:04 PM

10/31/2018 4:13:56 PM

B6

B6

ECG from cardio

B6

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ECG from cardio

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Rads 9/17/18

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Rads 9/17/18

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ECG from Cardio

B6

B6

ECG from Cardio

B6

B6

ECG from Cardio

B6

B6

Patient History

09/17/2018 09:33 AM
09/17/2018 09:58 AM
09/17/2018 10:43 AM
09/17/2018 10:43 AM
09/17/2018 10:43 AM
09/17/2018 10:44 AM
09/17/2018 10:45 AM
09/17/2018 10:49 AM

09/17/2018 10:51 AM
09/17/2018 11:49 AM

09/17/2018 11:50 AM
09/17/2018 12:00 PM
09/17/2018 12:09 PM

09/17/2018 12:48 PM

09/17/2018 01:03 PM
09/17/2018 01:29 PM
09/17/2018 01:30 PM
09/17/2018 02:09 PM
09/17/2018 02:09 PM
09/17/2018 02:10 PM
09/17/2018 02:10 PM
09/17/2018 03:00 PM
09/17/2018 03:00 PM
09/17/2018 03:42 PM
09/17/2018 04:31 PM
09/17/2018 05:00 PM
09/17/2018 05:00 PM
09/17/2018 05:02 PM
09/17/2018 06:05 PM
09/17/2018 06:07 PM
09/17/2018 06:07 PM
09/17/2018 06:40 PM

09/17/2018 06:40 PM
09/17/2018 06:56 PM
09/17/2018 06:56 PM
09/17/2018 07:08 PM
09/17/2018 07:15 PM
09/17/2018 07:15 PM
09/17/2018 07:15 PM
09/17/2018 07:15 PM
09/17/2018 07:16 PM

09/17/2018 07:16 PM

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Patient History

09/17/2018 07:16 PM
09/17/2018 07:16 PM
09/17/2018 08:22 PM
09/17/2018 08:22 PM
09/17/2018 08:26 PM

09/17/2018 08:26 PM
09/17/2018 08:43 PM
09/17/2018 08:43 PM
09/17/2018 09:59 PM
09/17/2018 09:59 PM
09/17/2018 11:19 PM
09/17/2018 11:19 PM
09/18/2018 12:03 AM

09/18/2018 12:03 AM
09/18/2018 12:16 AM
09/18/2018 12:16 AM
09/18/2018 12:16 AM
09/18/2018 12:17 AM
09/18/2018 12:21 AM
09/18/2018 12:21 AM
09/18/2018 12:39 AM

09/18/2018 12:39 AM
09/18/2018 12:42 AM
09/18/2018 12:42 AM
09/18/2018 12:58 AM
09/18/2018 12:58 AM
09/18/2018 01:15 AM
09/18/2018 01:44 AM

09/18/2018 01:53 AM
09/18/2018 01:53 AM
09/18/2018 02:13 AM
09/18/2018 02:20 AM

09/18/2018 02:36 AM
09/18/2018 02:36 AM
09/18/2018 04:18 AM

09/18/2018 04:18 AM
09/18/2018 04:19 AM
09/18/2018 04:19 AM
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Patient History

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Patient History

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Patient History

09/26/2018 12:52 PM

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Patient History

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Notice of Patient Admit

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Cummings
Veterinary Medical Center
AT TUFTS UNIVERSITY

B6

B6

Daily Update From the Cardiology Service

Today's date: B6

B6

Thank you for referring patients to B6 at the Cummings School of Tufts University.

Your patient B6 Conti was admitted and is being cared for by the Cardiology Service.

Today: B6

- ☒ is in stable condition
- ☒ is still in the oxygen cage
- ☐ is critically ill
- ☐ might be discharged from the hospital today

Today's treatments include:

- ☒ bloodwork planned/pending
- ☒ echocardiography
- ☐ cardiac catheter procedure planned
- ☒ ongoing treatment for CHF
- ☐ ongoing treatment for thrombosis
- ☒ ongoing treatment for arrhythmia

Additional plans:

B6

Service student:

Appears this way on Original

Cummings
Veterinary Medical Center
AT TUFTS UNIVERSITY

B6

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B6

Thank you for referring **B6** with their pet **B6**

If you have any questions, or concerns, please contact us at **B6**

Thank you,

B6



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Thank you.

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Cummings
Veterinary Medical Center
AT TUFTS UNIVERSITY

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Cummings
Veterinary Medical Center
AT TUFTS UNIVERSITY

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Thank you,

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Cummings
Veterinary Medical Center
AT TUFTS UNIVERSITY

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Thank you for referring **B6** with their pet **B6**

If you have any questions, or concerns, please contact us at **B6**

Thank you.

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All Medical Records

B6

Breed: Golden Retriever

B6

Species: Canine
Sex: Female
(Spayed)

Referring Information

B6

Initial Complaint:

Emergency

SOAP Text **B6** 8:41AM - Clinician, Unassigned FHSA

Subjective

NEW VISIT (ER)

B6

Presenting complaint: Hot spots

Referral visit? No

Diagnostics completed prior to visit: None

HISTORY:

Signalment: 6 yo FS Golden retriever

Current history: Over the last week or so (starting caudal ventral abdomen) she has been getting worse areas of alopecia and erythema. No V/D/S, her appetite has been lowered for the last couple of days, no lethargy. The last few days the hot spots have been spreading to her hind limbs. Over the last few days she has developed a cough over the last week or so, sporadic. O has been treating the hot spots with a topical spray (antiseptic, antiitch) and has been shaving the areas. She licked at it a lot last night and it was significantly worse this morning. No other pets in the house.

Prior medical history: None except for a history of hot spots, usually treated with a topical spray, owner generally can stay on top of it without medical intervention.

Current medications: This morning she got 25mg of benadryl, none other

B6

Diet: Call of the wild dry food

Vaccination status/flea & tick preventative use: Up to date

Travel history: None

EXAM:

B6

ASSESSMENT:

B6

Diagnostics completed:

None

Diagnostics pending:

None

Client communication:

B6

SOAP approved (DVM to sign)

B6

DVM

Initial Complaint:

Emergency

B6

SOAP Text

B6

4:27PM

B6

SubjectiveNEW VISIT (ER)

B6

Presenting complaint: Coughing, weight loss

Referral visit? Y

Diagnostics completed prior to visit:

B6

HISTORY:

Signalment: 6yo FS Golden retriever

Current history:

Presented to Tufts for a hot spot 5-6 weeks ago, cough started back then, has continued to get worse, saw RDVM in spencer and was treated for kennel cough, seemed to improve but never resolved, followed up with rDVM and had radiographs, started on furosemide which helped but did nto resolve, radiographs repeated and tracheal compression suspected. Was the runt of the litter. Has been drinking normally, eating on and off, u/d normal, no c/v/d, eating around 2/3 of her normal diet. Decreased activity level.

Prior medical history:

Chronic hot spots, otherwise healthy

Current medications:

B6

EXAM:

B6

B6

B6

ASSESSMENT:

B6

PLAN:

B6

Diagnostics completed:

B6

Cardio consult:

- DCM with marked LA enlargement and suspected active CHF

B6

Diagnostics pending: none

Client communication:

Discussed finding of DCM on cardiology consult, recommended hospitalization overnight to titrate medications and provide supplemental oxygen if necessary versus discharge tonight and starting medications and monitoring at home; O elected to take P home tonight. Discussed enrollment in cardiology's grain-free diet/DCM study - the study covers the cost of blood work and echo today and potentially will cover echo and bloodwork at 3-month and 6-month recheck appointments; ER fee and hospitalization would still be paid for by O, as well as recheck appointment fees (including echo and bloodwork if indicated) in 10-14 days. O understood and agreed to enroll P in the study. Recheck scheduled with cardio on **B6**

Deposit & estimate status: none

B6

Resuscitation code (if admitting to ICU): n/a

SOAP approved (DVM to sign): **B6**

Initial Complaint:

Recheck - **B6** - DCM study - ECC consult

SOAP Text **B6** 3:45PM **B6**

Disposition/Recommendations

B6

Appears this way on Original

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Cummings
Veterinary Medical Center
AT TUFTS UNIVERSITY

B6

B6
Veterinarian:
B6
Visit ID:

B6	
Species:	Canine
Breed:	Golden Retriever
Sex:	Female (Spayed)
Age:	B6 Years Old

Lab Results Report

10/31/2018 7:11:55 PM **B6**

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

11/9/2018 3:46:15 PM **B6**

Test	Results	Reference Range	Units
U COLLECT		0 - 0	

Urine - Cystocentesis

U COLOR

U TURBIDITY

U SG

U PH

U PROTEIN

U GLUCOSE

U KETONES

U BILIRUBIN

Negative

B6

0 - 0

0 - 0

0 - 0

0 - 0

0 - 0

0 - 0

0 - 0

0 - 0

0 - 0

B6

U HEME PROTEIN

U WBC

U RBC

U BACTERIA

U CRYSTALS

U FAT

B6

0 - 0

0 - 0

0 - 0

0 - 0

0 - 0

0 - 0

/hpf

/hpf

/hpf

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B4

7/32

B6

Printed Saturday

B6

B6

COMMENTS (URINALYSIS)

0 - 0

Less than 1 ml urine submitted

B4

8/32

B6

Printed Saturday,

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B4, B6

10/29/18

B4, B6

B4, B6

Best Available Copy

10/29/18

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B4, B6

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DUPLICATE

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Research CBC/Chem

B6

DUPLICATE

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CARDIOPET 11/1/18

B6

B6

Diet history 10/31/18

B6

CARDIOLOGY DIET HISTORY FORM
Please answer the following questions about your pet

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B6

Vitals Results

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ECG from Cardio

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ECG from Cardio

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ECG from Cardio

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ECG from Cardio

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Patient History

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Cummings
Veterinary Medical Center
AT TUFTS UNIVERSITY

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Thank you,

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B6

Tom Robert
460 Shafford St
Charlton, MA 01507
(508) 344-4445

B6

B6

B6

Thank you,

B6

(Emergency & Critical Care)

B6

Client:

Address:

B6

All Medical Records

Patient: B6

Breed: Golden Retriever

DOB: 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

Client:
Patient:

B6

Client:
Patient:

B6

Cummings
Veterinary Medical Center
AT TUFTS UNIVERSITY

B6

Client:

Veterinarian:

Patient ID:

Visit ID:

B6

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

Printed Friday, November 09, 2018

Client:
Patient:

B6

Best Available Copy

B4, B6

H records

B4, B6

B6

Client:
Patient:

B6

B4, B6

records

B4, B6

B6

Client:
Patient:

B6

B4, B6

records

B4, B6

B6

Client:
Patient:

B6

Best Available Copy

B4, B6

records

B4, B6

B6

Client:
Patient:

B6

Best Available Copy

B4, B6

B6

Page 8 of 8

Client:
Patient:

B6

B4, B6

B6

Page 1 of 9

Client:
Patient:

B6

B4, B6

B6

Client: **B6**
Patient:

B4, B6

FECAL ANALYSIS: (In House)

B6

Client:
Patient:

B6

Best Available Copy

B4, B6

records

FECAL ANALYSIS: (In House)

B6

Client:
Patient:

B6

Best Available Copy

B4, B6

B6

Page 9 of 9

Client: **B6**
Patient:

B4, B6

records

FECAL ANALYSIS: (in House)

B6

Client:
Patient:

B6

B4, B6

B6

Client: **B6**
Patient:

CBC/Chem: **B6**



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

DUPLICATE

B6

Client: **B6**
Patient:

CBC/Chem **B6**



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

DUPLICATE

B6

B6

Client: **B6**
Patient:

Vitals Results

B6	11:32:13 AM	B6
-----------	-------------	-----------

Client:
Patient:

B6

ECG from cardio

B6

Client:
Patient:

B6

ECG from cardio

B6

Client:

Patient:

B6

ECG from cardio

B6

Patient History

B6	10:46 AM	B6
	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

Veterinary Cardiac Genetics Laboratory

B6



To request swab collection kits, please visit:

B6

Doberman Pinscher Dilated Cardiomyopathy (DCM) Genetic Testing

Dilated cardiomyopathy mutation (DCM) is a form of heart disease in the Doberman pinscher dog. It is an inherited disease, and our laboratory has identified two mutations responsible for the development of DCM. Dogs that are positive for both mutations are at the highest risk of developing DCM

Owner Name:

NCSU Doberman DCM1 (PDK4) Result: **Negative**

Dog's Name:

NCSU Doberman DCM2 Result: **Positive Heterozygous**

ID #:

B6

Below is an explanation for each possible test result so you can better understand all the possible results and make informed breeding decisions:

Negative Result for both DCM1 and DCM2:	The absence of both mutations in a Doberman indicates that the risk of developing DCM is low. It is still possible for a dog to develop heart disease. However, a negative result for both DCM1 and DCM2 indicates that a dog does not have either mutation known to cause DCM.
Positive result for NCSU DCM1 only :	About 40% of dogs with this mutation will develop DCM. Dogs that are positive for only DCM1 will not necessarily develop significant heart disease.
Breeding recommendations:	Dogs are positive for DCM1 should NEVER be bred to a dog that is positive for NCSU DCM 2 since this will lead to dogs that are highest risk of developing DCM. Dogs that are positive homozygous for DCM1 should ideally not be bred.
Positive Result for NCSU DCM2 only :	About 50% of dogs with this mutation will develop DCM. Dogs that are positive for only DCM2 will not necessarily develop significant heart disease.
Breeding recommendations:	Dogs are positive for DCM2 should NEVER be bred to a dog that is positive for NCSU DCM1 (PDK4) since this will lead to dogs that are highest risk of developing DCM. Dogs that are positive homozygous for DCM2 should ideally not be bred.
Positive result for both NCSU DCM1 and NCSU DCM2 :	Dogs that positive for BOTH DCM1 & DCM2 are at a very HIGH risk of developing DCM and should be carefully monitored by your veterinarian for signs of disease. Annual evaluation by a cardiologist with an echocardiogram and Holter monitor after 3 years of age is recommended.
Breeding recommendations:	Dogs that are positive for both DCM1 & DCM2 are at the HIGHEST risk of developing DCM and should ideally not be bred since they can pass both traits on. They should never be bred to a dog that is positive for either test.



As always, breeding decisions should be made carefully. Removal of a significant number of dogs from the breeding population could be very bad for the Doberman Pinscher breed. Remember that dogs that carry this mutation may also carry other important good genes that we do not want to lose from the breed.



Report Details - EON-372842

ICSR: 2059630

Type Of Submission: Initial

Report Version: FPSR.FDA.PETF.V.V1

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

Reporting Type: Voluntary

Report Submission Date: 2018-12-04 18:53:33 EST

Reported Problem: **Problem Description:** DCM and CHF (cough developed earlier but diagnosed 11/29/18) Eating BEG diet Taurine pending Owner changing diet and we will recheck Note: listed as **B6** in medical record

Date Problem Started: 11/29/2018**Concurrent Medical Problem:** Yes**Pre Existing Conditions:** Hypothyroidism**Outcome to Date:** Stable**Product Information:****Product Name:** Earthborn Meadow Feast dry**Product Type:** Pet Food**Lot Number:****Package Type:** BAG**Product Use Description:** See diet history in medical record for more info I have bag of food if interested in sample**Manufacturer /Distributor Information:****Purchase Location Information:****Animal Information:****Name:** **B6****Type Of Species:** Dog**Type Of Breed:** Mixed (Dog)**Gender:** Female**Reproductive Status:** Neutered**Weight:** 19.9 Kilogram**Age:** 8 Years**Assessment of Prior Health:** Excellent**Number of Animals Given the Product:** 1**Number of Animals Reacted:** 1**Owner Information:****Owner Information provided:** Yes**Contact: Name:****Phone:****Email:****Address:****B6**

United States

Healthcare Professional Practice Name: Tufts Cummings School of Veterinary Medicine**Contact: Name:** Lisa Freeman**Phone:** (508) 887-4523

			Email: lisa.freeman@tufts.edu
		Address:	200 Westboro Rd North Grafton Massachusetts 01536 United States
Sender Information:	Name:	Lisa Freeman	
	Address:	200 Westboro Rd North Grafton Massachusetts 01536 United States	
	Contact:	Phone:	5088874523
		Email:	lisa.freeman@tufts.edu
	Permission To Contact Sender:	Yes	
	Preferred Method Of Contact:	Email	
Additional Documents:	Attachment:	rpt_medical_record_preview.pdf	
	Description:	Medical records	
	Type:	Medical Records	

Report Details - EON-372804				
ICSR:	2059619			
Type Of Submission:	Initial			
Report Version:	FPSR.FDA.PETF.V.V1			
Type Of Report:	Adverse Event (a symptom, reaction or disease associated with the product)			
Reporting Type:	Voluntary			
Report Submission Date:	2018-12-04 17:08:36 EST			
Reported Problem:	Problem Description:	Littermate diagnosed with reduced cardiac contractility Eating BEG diet (Earthborn) so screened all housemates Echo within normal limits but elevated NT-proBNP and cardiac troponin I Taurine pending Owner changing diet and will recheck in 3 months		
	Date Problem Started:	11/21/2018		
	Concurrent Medical Problem:	Yes		
	Pre Existing Conditions:	History of resection of jejunum and ileum due to intussusception as puppy		
	Outcome to Date:	Stable		
Product Information:	Product Name:	Earthborn Meadow Feast dry		
	Product Type:	Pet Food		
	Lot Number:			
	Package Type:	BAG		
	Product Use Information:	Description:	See diet history	
		First Exposure Date:	02/01/2018	
	Manufacturer /Distributor Information:			
Purchase Location Information:				
Animal Information:	Name:	B6		
	Type Of Species:	Dog		
	Type Of Breed:	Boxer (German Boxer)		
	Gender:	Female		
	Reproductive Status:	Intact		
	Pregnancy Status:	Not pregnant		
	Lactation Status:	Not lactating		
	Weight:	27.4 Kilogram		
	Age:	3 Years		
	Assessment of Prior Health:	Excellent		
	Number of Animals Given the Product:	5		
	Number of Animals Reacted:	4		
	Owner Information:	Owner Information provided:	Yes	
		Contact:	Name:	B6
			Phone:	
Email:				
Address:		B6 United States		

	Healthcare Professional Information:	Practice Name:	Tufts Cummings School of Veterinary Medicine	
		Contact:	Name:	Lisa Freeman
			Phone:	(508) 887-4523
			Email:	lisa.freeman@tufts.edu
		Address:	200 Westboro Rd North Grafton Massachusetts 01536 United States	
Sender Information:	Name:	Lisa Freeman		
	Address:	200 Westboro Rd North Grafton Massachusetts 01536 United States		
	Contact:	Phone:	5088874523	
		Email:	lisa.freeman@tufts.edu	
	Permission To Contact Sender:	Yes		
Preferred Method Of Contact:	Email			
Additional Documents:	Attachment:	compiled medical records	B6	pdf
	Description:	Medical records		
	Type:	Medical Records		

Report Details - EON-372606**ICSR:** 2059540**Type Of Submission:** Initial**Report Version:** FPSR.FDA.PETF.V.V1**Type Of Report:** Adverse Event (a symptom, reaction or disease associated with the product)**Reporting Type:** Voluntary**Report Submission Date:** 2018-12-03 09:27:13 EST

Reported Problem: **Problem Description:** Littermate diagnosed with DCM. Initial taurine level (plasma only) was 42. WB taurine submitted = 304 Eats BEG diet Mildly reduced contractile function on echo NT-proBNP = 2766 troponin mildly elevated at 0.1 (istat) and 0.096 at Texas A&M Will recheck in 3-4 months

Date Problem Started: 11/08/2018**Concurrent Medical Problem:** Yes**Pre Existing Conditions:** Chronic diarrhea Hx of anaplasmosis**Outcome to Date:** Stable

Product Information: **Product Name:** Acana Lamb and Apple singles

Product Type: Pet Food**Lot Number:****Package Type:** BAG**Product Use Description:** Fed since 2016**Manufacturer /Distributor Information:****Purchase Location Information:**

Animal Information: **Name:** B6

Type Of Species: Dog**Type Of Breed:** Irish Wolfhound**Gender:** Male**Reproductive Status:** Intact**Weight:** 82.7 Kilogram**Age:** 3 Years**Assessment of Prior Health:** Good**Number of Animals Given the Product:** 1**Number of Animals Reacted:** 1

Owner Information: **Owner Information provided:** Yes

Contact Name:**Phone:****Email:****Address:****B6**

United States

Healthcare Professional Information: **Practice Name:** Tufts Cummings School of Veterinary Medicine

Contact Name: Lisa Freeman**Phone:** (508) 887-4523

			Email: lisa.freeman@tufts.edu
		Address:	200 Westboro Rd North Grafton Massachusetts 01536 United States
Sender Information:	Name:	Lisa Freeman	
	Address:	200 Westboro Rd North Grafton Massachusetts 01536 United States	
	Contact:	Phone:	5088874523
		Email:	lisa.freeman@tufts.edu
	Permission To Contact Sender:	Yes	
	Preferred Method Of Contact:	Email	
Additional Documents:	Attachment:	B6	compiled records.pdf
	Description:	Medical records	
	Type:	Medical Records	

Report Details - EON-372652**ICSR:** 2059586**Type Of Submission:** Initial**Report Version:** FPSR.FDA.PETF.V.V1**Type Of Report:** Adverse Event (a symptom, reaction or disease associated with the product)**Reporting Type:** Voluntary**Report Submission Date:** 2018-12-03 14:40:10 EST

Reported Problem: **Problem Description:** Evaluated for exercise intolerance; identified ventricular arrhythmia and mildly reduced contractile function. Plasma taurine 174 (WB not evaluated). We will be rechecking dog in a 3-4 months. Was eating BEG diet (Blue Buffalo) at time of diagnosis then switched to Fromm Lg Breed after diagnosis but now transitioning to Pro Plan Weight Management

Date Problem Started: 09/18/2018**Concurrent Medical** No**Problem:****Outcome to Date:** Stable

Product Information: **Product Name:** Blue Buffalo Wilderness Large Breed Grain free dry

Product Type: Pet Food**Lot Number:****Package Type:** BAG**Product Use
Information:****Manufacturer
/Distributor Information:****Purchase Location
Information:**

Animal Information: **Name:** B6

Type Of Species: Dog**Type Of Breed:** Great Dane**Gender:** Male**Reproductive Status:** Neutered**Weight:** 97.8 Kilogram**Age:** 6 Years**Assessment of Prior
Health:** Excellent**Number of Animals 1
Given the Product:****Number of Animals 1
Reacted:****Owner Information:****Owner Yes
Information
provided:****Contact: Name:****Phone:****Email:****Address:****B6**

United States

Healthcare Professional Practice Name: Tufts Cummings School of Veterinary Medicine
Information:

Contact: Name: Lisa Freeman**Phone:** (508) 887-4523

		Email: lisa.freeman@tufts.edu
	Address:	200 Westboro Rd North Grafton Massachusetts 01536 United States
Sender Information:	Name:	Lisa Freeman
	Address:	200 Westboro Rd North Grafton Massachusetts 01536 United States
	Contact:	Phone: 5088874523 Email: lisa.freeman@tufts.edu
	Permission To Contact Sender:	Yes
	Preferred Method Of Contact:	Email
Additional Documents:	Attachment:	records: B6 pdf
	Description:	Records
	Type:	Medical Records

B6

All Medical Records

Client: **B6**
Address: **B6**

Patient: **B6**
Breed: Great Dane
DOB: **B6**

Species: Canine
Sex: Male
(Neutered)

Home Phone: **B6**
Work Phone: **B6**
Cell Phone: **B6**

Referring Information

B6
Client: **B6**
Patient: **B6**

Initial Complaint:

Emergency

SOAP Text **B6** 8:22PM **B6**

B6 is a 6 y/o MN Great Dane presenting for a history of exercise intolerance and labored breathing over 6 months that has worsened in the last week.

Subjective

NEW VISIT (ER)

Doctor: **B6**

Presenting complaint: labored breathing/exercise intolerance for past 6 months, worse for 1 week

Referral visit? no

Diagnostics completed prior to visit

HISTORY:

Signalment: 6 yo MN Great Dane

Current history: For about a week, O started noticing labored breathing and dog seemed uncomfortable and restless. O concerned that he doesn't seem like himself, restless at night, slowed down. Exercise intolerance since spring (gradually) and got much worse past 1 week. O concerned with how he is exhaling. More discharge from his nose. O believes he has some muscle wasting. O indicated that they called cardio liaison who indicated to bring him to ER and will be transferred to cardiology. No v/d/c/s. Eating/drinking normally. Urinating/defecating normally.

Prior medical history: Gastropexy surgery when he was 18 months; Doesn't clot well according to owner

Client:
Patient:

B6

Current medications: no meds

Diet: Blue Wilderness Giant breed - 2 cups twice a day, then 1 cup of chicken twice a day

Vaccination status/flea & tick preventative use: UTD on vaccines, Ivermectin

Travel history: None

EXAM:

B6

ASSESSMENT:

A1: exercise intolerance/labored breathing r/o cardiac disease (DCM vs other) vs primary respiratory disease

PLAN:

B6

Diagnostics completed:

Big 4: lac 1.0, gluc 102, PCV/TS 55%/8.0

TFAST: difficult to assess heart due to deep chest, no obvious B lines

Diagnostics pending:

B6

Client communication:

B6

Client:
Patient:

B6

B6

SOAP approved (DVM to sign):

B6

SOAP Text

B6

8:13AM

B6

B6 is a 6 y/o MN Great Dane presenting for a history of exercise intolerance and labored breathing over 6 months that has worsened in the last week.

Subjective

Exam, cardiology

B6

Overall impression since arrival or since last exam: Seems stable since last exam on arrival, possibly mildly dehydrated but was not on arrival.

B6

Client: **B6**
Patient: **B6**

B6

SOAP completed by: **B6**
SOAP reviewed by: **B6**

Initial Complaint:

Recheck **B6**

Disposition/Recommendations

Client:
Patient:

B6

Client: **B6**
Patient:

Cummings
Veterinary Medical Center
AT TUFTS UNIVERSITY

B6

Client: **B6**
Veterinarian:
Patient ID: **B6**
Visit ID:

Patient: **B6**
Species: Canine
Breed: Great Dane
Sex: Male (Neutered)
Age: **B6** years Old

Lab Results Report

CBC, Comprehensive, Sm Animal **B6** 9:50:13 PM **B6**

Test	Results	Reference Range	Units
WBC (ADVIA)	B6	4.4 - 15.1	K/uL
RBC(ADVIA)		5.8 - 8.5	M/uL
HGB(ADVIA)		13.3 - 20.5	g/dL
HCT(ADVIA)		39 - 55	%
MCV(ADVIA)		64.5 - 77.5	fL
MCH(ADVIA)		21.3 - 25.9	pg
MCHC(ADVIA)		31.9 - 34.3	g/dL
RDW (ADVIA)		11.9 - 15.2	
PLT(ADVIA)		173 - 486	K/uL
MPV (ADVIA)		8.29 - 13.2	fL
PLTCRT		0.129 - 0.403	%
RETIC(ADVIA)		0.2 - 1.6	%
RETICS (ABS) ADVIA		14.7 - 113.7	K/uL
COMMENTS (HEMATOLOGY)		0 - 0	

CBC, Comprehensive, Sm Animal **B6** 9:50:27 PM **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



6/30

B6

Printed Sunday, November 11, 2018

Client: **B6**
 Patient:

MAGNESIUM 2+	B6	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		3.7 - 5.4	mEq/L
tCO ₂ (BICARB)		14 - 28	mEq/L
AGAP		8 - 19	
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
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

CBC, Comprehensive, Sm Animal **B6** 9:50:10 PM **B6**

Test	Results	Reference Range	Units
SEGS%	B6	43 - 86	%
LYMPHS%		7 - 47	%
MONOS%		1 - 15	%
EOS%		0 - 16	%
NRBC		0 - 1	/100 WBC
SEGS (AB)ADVIA		2.8 - 11.5	K/uL
LYMPHS (ABS)ADVIA		1 - 4.8	K/uL
MONOS (ABS)ADVIA		0.1 - 1.5	K/uL
EOS (ABS)ADVIA		0 - 1.4	K/uL
WBC MORPHOLOGY		0 - 0	
No Morphologic Abnormalities			
POIKILOCYTOSIS		0 - 0	

CBC, Comprehensive, Sm Animal **B6** 10:44:58 PM **B6**

Test	Results	Reference Range	Units
TS (FHSA)	B6	0 - 0	g/dL



7/30

B6

Printed Sunday, November 11, 2018

Client: **B6**
Patient:

Lactate (FHSA) *	B6	0 - 0	mmol/L
BG (FHSA)		0 - 0	g/dL
TS (FHSA)		0 - 0	g/dL
PCV		0 - 0	%

CBC, Comprehensive, Sm Animal		B6	12:45:25 PM	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	
BEecf		0 - 0	mmol/L	
BEb		0 - 0	mmol/L	
Λ		0 - 0	mmHg	
NOVA SAMPLE		0 - 0		
FiO2		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	

CBC, Comprehensive, Sm Animal		B6	12:45:00 PM	B6
Test	Results	Reference Range	Units	
TAURINE P	B6	60 - 120	nmol/mL	



8/30

B6

Printed Sunday, November 11, 2018

Client:
Patient:

B6

B4, B6

proBNP

B6

B6

Client:
Patient:

B6

Lab Results University of California Amino Acid Lab

B6

Sample Submission Form

B6

Client: **B6**
Patient: **B6**

Lab Results University of California Amino Acid Lab **B6**

UNIVERSITY OF CALIFORNIA, DAVIS



B6

Client:
Patient:

B6

Lab Results University of California Amino Acid Lab

B6

B6

Page 2 of 4

Client:
Patient:

B6

Lab Results University of California Amino Acid Lab

B6

B6

Client:
Patient:

B6

Lab Results University of California Amino Acid Lab

B6



UC DAVIS
VETERINARY MEDICINE

CARDIOLOGY SERVICE UPDATES: DOG FOOD & DILATED CARDIOMYOPATHY

B6

Client:
Patient:

B6

Vitals Results

9:53:54 PM	Notes
11:12:57 PM	Respiratory Rate
11:13:23 PM	Eliminations
11:16:17 PM	Amount eaten
11:16:39 PM	Heart Rate (/min)
2:31:29 AM	Cardiac rhythm
2:31:30 AM	Heart Rate (/min)
2:33:04 AM	Lasix treatment note
4:06:19 AM	Cardiac rhythm
4:06:20 AM	Heart Rate (/min)
4:06:34 AM	Respiratory Rate
4:59:57 AM	Cardiac rhythm
4:59:58 AM	Heart Rate (/min)
5:44:28 AM	Eliminations
5:50:00 AM	Cardiac rhythm
5:50:01 AM	Heart Rate (/min)
6:36:32 AM	Cardiac rhythm
6:36:33 AM	Heart Rate (/min)
7:50:51 AM	Cardiac rhythm
7:50:52 AM	Heart Rate (/min)
8:02:12 AM	Temperature (F)
8:02:28 AM	Weight (kg)
8:02:40 AM	Respiratory Rate
8:02:54 AM	Amount eaten
8:13:29 AM	Weight (kg)
8:13:30 AM	Respiratory Rate
8:13:31 AM	Heart Rate (/min)
8:13:32 AM	Temperature (F)
8:13:33 AM	Body Condition Score (BCS)
8:13:34 AM	Muscle Condition Score (MCS)
8:13:35 AM	Pain assessment
8:58:16 AM	Cardiac rhythm
8:58:17 AM	Heart Rate (/min)
9:33:17 AM	Cardiac rhythm
9:33:18 AM	Heart Rate (/min)
11:50:48 AM	Cardiac rhythm
11:50:49 AM	Heart Rate (/min)
11:52:18 AM	Heart Rate (/min)
11:52:29 AM	Respiratory Rate

B6

B6

Client:
Patient:

B6

Vitals Results

B6

01:53:50 AM	Amount eaten
31:04 PM	Cardiac rhythm
31:05 PM	Heart Rate (/min)
27:13 PM	Eliminations
27:24 PM	Cardiac rhythm
27:25 PM	Heart Rate (/min)
28:19 PM	Respiratory Rate
37:13 PM	Quantity IV fluids (mls)
37:14 PM	Catheter Assessment
14:37 PM	Cardiac rhythm
14:38 PM	Heart Rate (/min)
42:51 PM	Heart Rate (/min)
42:59 PM	Cardiac rhythm
43:00 PM	Heart Rate (/min)
1:02:07 PM	Weight (kg)

B6

Client:
Patient:

B6

ECG from cardio

B6

Client:
Patient:

B6

ECG from cardio

B6

Client:
Patient:

B6

ECG from Cardio

B6

Client:
Patient:

B6

ECG from Cardio

B6

Client:
Patient:

B6

ECG from Cardio

B6

Client:
Patient:

B6

Patient History

06:52 PM	UserForm
06:53 PM	UserForm
08:43 PM	UserForm
09:49 PM	Purchase
09:49 PM	Purchase
09:53 PM	Purchase
09:53 PM	Vitals
09:54 PM	Purchase
10:45 PM	Labwork
10:47 PM	Purchase
10:47 PM	Purchase
11:07 PM	Treatment
11:12 PM	Treatment
11:12 PM	Vitals
11:13 PM	Treatment
11:13 PM	Vitals
11:16 PM	Treatment
11:16 PM	Vitals
11:16 PM	Treatment
11:16 PM	Treatment
11:16 PM	Vitals
02:31 AM	Treatment
02:31 AM	Vitals
02:31 AM	Vitals
02:33 AM	Vitals
02:33 AM	Treatment
04:06 AM	Treatment
04:06 AM	Vitals
04:06 AM	Vitals
04:06 AM	Treatment
04:06 AM	Vitals
04:59 AM	Treatment
04:59 AM	Vitals
04:59 AM	Vitals
05:44 AM	Treatment
05:44 AM	Vitals
05:50 AM	Treatment
05:50 AM	Vitals
05:50 AM	Vitals
06:36 AM	Treatment

B6

Client: **B6**
Patient:

Patient History

B6

B6

Client:
Patient:

B6

Patient History

11:50 AM	Vitals
11:52 AM	Treatment
11:52 AM	Treatment
11:52 AM	Vitals
11:52 AM	Treatment
11:52 AM	Vitals
11:53 AM	Treatment
11:53 AM	Vitals
12:30 PM	Treatment
12:39 PM	Purchase
12:40 PM	Purchase
12:40 PM	Purchase
12:46 PM	Purchase
12:58 PM	UserForm
01:04 PM	Treatment
01:04 PM	Treatment
01:31 PM	Treatment
01:31 PM	Vitals
01:31 PM	Vitals
01:58 PM	Purchase
01:59 PM	Treatment
03:27 PM	Treatment
03:27 PM	Vitals
03:27 PM	Treatment
03:27 PM	Vitals
03:27 PM	Vitals
03:27 PM	Treatment
03:28 PM	Treatment
03:28 PM	Vitals
03:37 PM	Treatment
03:37 PM	Vitals
03:37 PM	Vitals
04:14 PM	Treatment
04:14 PM	Vitals
04:14 PM	Vitals
05:20 PM	UserForm
05:42 PM	Treatment
05:42 PM	Vitals
05:42 PM	Treatment
05:42 PM	Vitals

B6

B6

Client: **B6**
Patient:

Patient History

B6	05:42 PM	Vitals	B6
	06:29 PM	Prescription	
	06:31 PM	Purchase	
	07:50 AM	Deleted Reason	
	07:50 AM	Deleted Reason	
	09:38 AM	Appointment	
	04:05 PM	Appointment	
	11:58 AM	Userform	
	12:10 PM	Treatment	
	12:25 PM	Userform	
	12:31 PM	Purchase	
	12:48 PM	Purchase	
	01:02 PM	Vitals	
	01:07 PM	Prescription	
	01:13 PM	Purchase	
	01:51 PM	Email	
	02:07 PM	Appointment	

Appears this way on original

Appears this way on original

Cummings
Veterinary Medical Center
AT TUFTS UNIVERSITY

B6

Notice of Patient Admit

Date: **B6** 8:40:29 PM

B6

B6

Dear **B6**

B6

Thank you for your referral to our Emergency Service.

B6

B6

B6

B6

B6

B6

From: PFR Event <pfpreventcreation@fda.hhs.gov>
To: Cleary, Michael *; HQ Pet Food Report Notification; B6
Sent: 12/3/2018 7:49:11 PM
Subject: Loyall Professional All Life Stages dry: Lisa Freeman - EON-372653
Attachments: 2059567-report.pdf; 2059567-attachments.zip

A PFR Report has been received and PFR Event [EON-372653] has been created in the EON System.

A "PDF" report by name "2059567-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 "2059567-attachments.zip" and is attached to this email notification.

Below is the summary of the report:

EON Key: EON-372653

ICSR #: 2059567

EON Title: PFR Event created for Loyall Professional All Life Stages dry; 2059567

AE Date	11/20/2018	Number Fed/Exposed	2
Best By Date		Number Reacted	1
Animal Species	Dog	Outcome to Date	Stable
Breed	Pointing Dog - German Short-haired		
Age	10.5 Years		
District Involved	PFR B6 DO		

Product information

Individual Case Safety Report Number: 2059567

Product Group: Pet Food

Product Name: Loyall Professional All Life Stages dry

Description: Collapsing episodes began soon before diagnosis DCM and CHF diagnosed. Taurine pending One other dog in household that we will evaluate soon (asymptomatic)

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
Loyall Professional All Life Stages 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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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.

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Report Details - EON-372653**ICSR:** 2059587**Type Of Submission:** Initial**Report Version:** FPSR.FDA.PETF.V.V1**Type Of Report:** Adverse Event (a symptom, reaction or disease associated with the product)**Reporting Type:** Voluntary**Report Submission Date:** 2018-12-03 14:40:53 EST**Reported Problem:** **Problem Description:** Collapsing episodes began soon before diagnosis DCM and CHF diagnosed. Taurine pending One other dog in household that we will evaluate soon (asymptomatic)**Date Problem Started:** 11/20/2018**Concurrent Medical Problem:** No**Outcome to Date:** Stable**Product Information:** **Product Name:** Loyall Professional All Life Stages dry**Product Type:** Pet Food**Lot Number:****Package Type:** BAG**Product Use Description:** Fed since May 2018 Before that, fed Native Food Performance dry for many years**Manufacturer****/Distributor Information:****Purchase Location Information:****Animal Information:** **Name:****B6****Type Of Species:** Dog**Type Of Breed:** Pointing Dog - German Short-haired**Gender:** Male**Reproductive Status:** Intact**Weight:** 26.7 Kilogram**Age:** **B6** Years**Assessment of Prior Health:** Excellent**Number of Animals Given the Product:** 2**Number of Animals Reacted:** 1**Owner Information:****Owner Information provided:** Yes**Contact: Name:****Phone:****Email:****B6****Address:****B6**

United States

Healthcare Professional Practice Name: Tufts Cummings School of Veterinary Medicine**Contact: Name:** Lisa Freeman**Phone:** (508) 887-4523**Email:** lisa.freeman@tufts.edu

		Address: 200 Westboro Rd North Grafton Massachusetts 01536 United States
Sender Information:	Name:	Lisa Freeman
	Address:	200 Westboro Rd North Grafton Massachusetts 01536 United States
	Contact:	Phone: 5088874523 Email: lisa.freeman@tufts.edu
	Permission To Contact Sender:	Yes
	Preferred Method Of Contact:	Email
Additional Documents:	Attachment:	compiled medical record: B6 pdf
	Description:	Medical records
	Type:	Medical Records

B6

All Medical Records

Client:

B6

Address:

Patient:

B6

Breed:

German Shorthair Pointer

DOB:

B6

Species: Canine

Sex: Male

Home Phone:

Work Phone:

Cell Phone:

B6

Referring Information

B6

Initial Complaint:

Initial Complaint:

cut on paw, recheck stitches done in

B6

SOAP Text Nov 3 2014 1:23PM

B6

11-3-14

B6 is a 6.5 yo intact German Short haired Pointer. He was hunting in **B6** 10 days ago and came up lame and bleeding on his front left leg. He was taken to a local vet who did a laceration repair. He had internal sutures and skin staples. The owner is hear today for staple removal. **B6** has pulled out about half of the staples already.

S: BAR-H

B6

Client: **B6**
Patient:

B6

Initial Complaint:

Emergency

SOAP Text **B6** 8:35AM - Clinician, Unassigned FHSA

Subjective

NEW VISIT (ER)

Doctor: **B6**

Student: **B6**

Presenting complaint: Collapsing episodes

Referral visit? N

Diagnostics completed prior to visit

HISTORY:

Signalment: 10 yo Intact German Shorthair Pointer

Current history:

Between Nov 1-12 was in **B6** and **B6** hunting. 10-12th wasn't hunting but still in **B6**. Had a lot of exercise with no issues noted. Evening of the 7th and 8th were cold (in the teens) - was in a dog trailer with six compartments. Morning of the 9th he seemed a little bit stiff and had less interest in breakfast but ultimately ate a small amount (unusual for him). On the evening of the 13th, back legs folded under him and he collapsed onto his side in the kitchen (hardwood floor). Didn't cry, just laid there. Was eventually put on his feet by the owner and walked fine. Next night, same thing happened. Took to rDVM on Wednesday (came back with a little bit of a cough after hunting trip) - placed on doxycycline at rDVM. Owner gone 15-18th so dog walker watched at home - was in crate or on carpeted floor the whole time - no exercise/long walks. Sunday night he collapsed again - seemed like his back legs gave out. This morning O's younger dog bumped into him and he fell down again. Owner put on his feet but patient was unable to stand, tried this several times, eventually was able to stand after 2-3 minutes. Later ate his whole meal. Came straight here. O notes collapsing primarily occurs in evenings apart from this AM but is not associated with anything. Was able to jump into truck to get here. No crying, doesn't seem to be in pain. No V/D/S. Little bit of a cough. His breathing has seemed a little ragid to owner recently.

B6

EXAM:

S: BAR

Client:
Patient:

B6

B6

B6

ASSESSMENT:

A1: Collapsing episodes (cardiogenic (DCM vs DMVD) vs neurologic)

PLAN:

B6

Diagnostics completed:

NOVA: Mg 0.5 (H), Lactate 3.3 (H)

AFAST/TFAST: Dilated cardiac compartments, thinned walls, poor contractility, no FF in either cavity, few B lines

EKG-- consistent with A fib

Radiographs: Generalized cardiomegaly, caudodorsal interstitial infiltrates - final report pending

Cardio Consult: Dilated cardiomyopathy, mitral valve degeneration - final report pending

Diagnostics pending:

None

Client communication:

B6

Client: **B6**
Patient:

B6

SOAP approved (DVM to sign): **B6**

SOAP Text **B6** 6:51AM - **B6**

History:

B6 is a 10 year old male german shorthaired pointer pesenting for recurrent episodes of collapse, mild cough and mild labored breathing starting 11/13.

He was diagnosed with DCM, active CHF, and atrial fibrillation yesterday.

Subjective:

B6

Overall impression since arrival or since last exam: **B6** has been noted to be in A-fibb for the entire evening (on every 1 hour telemetry reading). He had occasional VPC's on 11/20 at 10pm. His heart rate has ranged from 119-238 overnight. **B6** rcvd 3 doses of furosemide 50mg IV on 11/20/18 at 8am, 4pm and 12am (11/21). He has received diltiazem ER at 12pm on 11/20 and 12am on 11/21. He has had no to mild effort overnight with his respiratory rate ranging from 28-36. He urinated frequently overnight. **B6** ate well when offered food overnight.

Appetite: Ate 1 cup of proplan dry and 1/2 can proplan wet at 8pm and then ate 2/4 can chicken and barley SD wet.

Objective:

B6

Diagnostics Completed:

B6

Client: **B6**
Patient:

AFAST/TFAST: Dilated cardiac compartments, thinned walls, poor contractility, no FF in either cavity, few B lines

Radiographs: Generalized cardiomegaly with LAE, diffuse interstitial infiltrates worse on the right, VHS 13.5, consistent with cardiogenic pulmonary edema.

Echocardiogram: Marked cardiac enlargement, atrial fibrillation, and CHF with CHF and arrhythmia both being potential causes for the collapse episodes. TSignificant MR and reduced contractile function so it is difficult to determine whether the disease process is primary mitral valve disease with reduced LV contractile function associated with being a large breed dog and atrial fibrillation or primary DCM with secondary functional MR.

ECG: Atrial fibrillation with rapid ventricular response rate of 240 bpm, rare isolated VPCs.

Assessments:

A1: DCM and mitral regurgitation - either primary DCM with secondary mitral valve disease or DCM secondary to mitral valve disease

A2: Diffuse pulmonary infiltrates, enlarged cardiac silhouette with LAE, history of cough - pulmonary edema secondary to CHF

A3: Atrial fibrillation with rapid ventricular response rate and occasional VPC's - secondary to DCM

A4: Collapsing episodes r/o secondary to CHF or arrhythmia

Plan:

B6

SOAP completed by: **B6**
SOAP reviewed by:

Disposition/Recommendations

Client:
Patient:

B6

Client: **B6**
Patient:

Cummings
Veterinary Medical Center
AT TUFTS UNIVERSITY

B6

Client: **B6**
Veterinarian:
Patient ID: **B6**
Visit ID:

Patient: **B6**
Species: Canine
Breed: German Shorthair Pointer
Sex: Male
Age: **B6** Years Old

Lab Results Report

Nova Full Panel-ICU		B6	8:42:25 AM	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		



7/38

B6

Printed Monday, December 03, 2018

Client: **B6**
Patient:

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

B6

8:48:24 AM

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

B6

1:15:53 PM

B6

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

Nova Full Panel-ICU

B6

1:32:21 PM

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	
Slight lipemia Slight hemolysis			

8/38

B6



Printed Monday, December 03, 2018

Client:
Patient:

B6



9/38

B6

Printed Monday, December 03, 2018

Client:
Patient:

B6

Archived Record 12/11/13

B6

Client:
Patient:

B6

Archived Record 12/11/13

B6

B6

Client:
Patient:

B6

Archived Record 12/11/13

B6

Client:
Patient:

B6

Archived Record 12/11/13

B6

Client:
Patient:

B6

Standard Consent Form

B6

Client:
Patient:

B6

Standard Consent Form

B6

Client:
Patient:

B6

IDEXX BNP - 11/21/2018

B6

Client:
Patient:

B6

B6

B6

Client:
Patient:

B6

B6

B6

Client:
Patient:

B6

Vitals Results

9:32:14 AM	Heart Rate (/min)
9:32:15 AM	Respiratory Rate
9:32:16 AM	Temperature (F)
9:32:17 AM	Weight (kg)
10:43:05 AM	Nursing note
10:46:20 AM	Cardiac rhythm
10:46:21 AM	Heart Rate (/min)
10:46:41 AM	Respiratory Rate
11:09:38 AM	Cardiac rhythm
11:09:39 AM	Heart Rate (/min)
11:36:36 AM	Eliminations
12:00:19 PM	Cardiac rhythm
12:00:20 PM	Heart Rate (/min)
12:01:51 PM	Respiratory Rate
1:30:26 PM	Cardiac rhythm
1:30:27 PM	Heart Rate (/min)
1:30:48 PM	Respiratory Rate
1:31:11 PM	Cardiac rhythm
1:31:12 PM	Heart Rate (/min)
3:34:08 PM	Cardiac rhythm
3:34:09 PM	Heart Rate (/min)
4:01:56 PM	Cardiac rhythm
4:01:57 PM	Heart Rate (/min)
4:02:06 PM	Respiratory Rate
4:07:23 PM	Lasix treatment note
5:13:50 PM	Cardiac rhythm
5:13:51 PM	Heart Rate (/min)
5:14:02 PM	Eliminations
6:10:01 PM	Cardiac rhythm
6:10:02 PM	Heart Rate (/min)
6:10:13 PM	Respiratory Rate
6:33:47 PM	Eliminations
6:54:42 PM	Cardiac rhythm
6:54:43 PM	Heart Rate (/min)
8:22:20 PM	Cardiac rhythm
8:22:21 PM	Heart Rate (/min)
8:22:41 PM	Respiratory Rate
8:26:31 PM	Amount eaten
8:26:56 PM	Weight (kg)
8:27:02 PM	Temperature (F)

B6

B6

Client:
Patient:

B6

Vitals Results

9:08:09 PM	Cardiac rhythm
9:08:10 PM	Heart Rate (/min)
10:00:15 PM	Cardiac rhythm
10:00:16 PM	Heart Rate (/min)
10:01:20 PM	Respiratory Rate
10:55:05 PM	Cardiac rhythm
10:55:06 PM	Heart Rate (/min)
11:58:52 PM	Cardiac rhythm
11:58:53 PM	Heart Rate (/min)
11:59:28 PM	Respiratory Rate
12:20:21 AM	Eliminations
12:46:44 AM	Lasix treatment note
12:56:50 AM	Cardiac rhythm
12:56:51 AM	Heart Rate (/min)
1:53:38 AM	Cardiac rhythm
1:53:39 AM	Heart Rate (/min)
1:53:55 AM	Respiratory Rate
2:57:07 AM	Cardiac rhythm
2:57:08 AM	Heart Rate (/min)
3:31:02 AM	Eliminations
3:31:21 AM	Amount eaten
3:58:44 AM	Cardiac rhythm
3:58:45 AM	Heart Rate (/min)
3:59:11 AM	Respiratory Rate
4:53:54 AM	Cardiac rhythm
4:53:55 AM	Heart Rate (/min)
6:05:40 AM	Cardiac rhythm
6:05:41 AM	Heart Rate (/min)
6:05:52 AM	Respiratory Rate
6:26:43 AM	Cardiac rhythm
6:26:44 AM	Heart Rate (/min)
7:18:29 AM	Weight (kg)
7:18:38 AM	Temperature (F)
7:18:53 AM	Respiratory Rate
7:22:20 AM	Eliminations
8:29:28 AM	Cardiac rhythm
8:29:29 AM	Heart Rate (/min)
9:05:04 AM	Cardiac rhythm
9:05:05 AM	Heart Rate (/min)
9:46:31 AM	Cardiac rhythm
9:46:32 AM	Heart Rate (/min)

B6

B6

Client:
Patient:

B6

Vitals Results

9:47:40 AM	Respiratory Rate
10:26:23 AM	Nursing note
10:31:09 AM	Amount eaten
10:44:02 AM	Eliminations
10:46:48 AM	Cardiac rhythm
10:46:49 AM	Heart Rate (/min)
10:47:58 AM	Respiratory Rate
11:51:53 AM	Cardiac rhythm
11:51:54 AM	Heart Rate (/min)
11:56:14 AM	Respiratory Rate
12:59:54 PM	Cardiac rhythm
12:59:55 PM	Heart Rate (/min)
1:01:14 PM	Respiratory Rate
1:03:22 PM	Respiratory Rate
1:06:27 PM	Eliminations
1:07:30 PM	Catheter Assessment
1:48:44 PM	Cardiac rhythm
1:48:45 PM	Heart Rate (/min)
3:33:29 PM	Cardiac rhythm
3:33:30 PM	Heart Rate (/min)
3:35:21 PM	Respiratory Rate
3:53:21 PM	Cardiac rhythm
3:53:22 PM	Heart Rate (/min)
3:57:55 PM	Respiratory Rate
4:01:46 PM	Lasix treatment note
4:08:16 PM	Eliminations
5:13:51 PM	Eliminations

B6

B6

Client:
Patient:

B6

ECG from Cardio

B6

B6

Client:
Patient:

B6

ECG from Cardio

B6

B6

Client:
Patient:

B6

ECG from Cardio

B6

B6

Client:
Patient:

B6

Patient History

10/29/2014 08:22 AM	Appointment
11/03/2014 01:31 PM	UserForm
11/03/2014 02:06 PM	Purchase
11/19/2018 09:38 AM	Appointment
11/20/2018 08:42 AM	Purchase
11/20/2018 08:48 AM	Labwork
11/20/2018 09:07 AM	UserForm
11/20/2018 09:07 AM	UserForm
11/20/2018 09:16 AM	UserForm
11/20/2018 09:32 AM	Vitals
11/20/2018 09:32 AM	Vitals
11/20/2018 09:32 AM	Vitals
11/20/2018 09:32 AM	Vitals
11/20/2018 09:50 AM	Purchase
11/20/2018 09:50 AM	Purchase
11/20/2018 09:51 AM	Purchase
11/20/2018 09:51 AM	Purchase
11/20/2018 09:51 AM	Purchase
11/20/2018 10:18 AM	Treatment
11/20/2018 10:42 AM	Purchase
11/20/2018 10:42 AM	Treatment
11/20/2018 10:42 AM	Purchase
11/20/2018 10:43 AM	Vitals
11/20/2018 10:46 AM	Treatment
11/20/2018 10:46 AM	Vitals
11/20/2018 10:46 AM	Vitals
11/20/2018 10:46 AM	Treatment
11/20/2018 10:46 AM	Treatment
11/20/2018 10:46 AM	Vitals
11/20/2018 11:09 AM	Treatment
11/20/2018 11:09 AM	Vitals
11/20/2018 11:09 AM	Vitals
11/20/2018 11:36 AM	Treatment
11/20/2018 11:36 AM	Vitals
11/20/2018 11:44 AM	Prescription
11/20/2018 11:59 AM	Prescription
11/20/2018 11:59 AM	Prescription
11/20/2018 12:00 PM	Treatment

B6

Client: **B6**
Patient:

Patient History

12:00 PM	Vitals
12:00 PM	Vitals
12:01 PM	Treatment
12:01 PM	Vitals
12:22 PM	Purchase
12:22 PM	Purchase
12:34 PM	Treatment
12:34 PM	Treatment
12:35 PM	Treatment
01:30 PM	Treatment
01:30 PM	Vitals
01:30 PM	Vitals
01:30 PM	Treatment
01:30 PM	Vitals
01:31 PM	Treatment
01:31 PM	Vitals
01:31 PM	Vitals
02:16 PM	Treatment
03:34 PM	Treatment
03:34 PM	Vitals
03:34 PM	Vitals
04:01 PM	Treatment
04:01 PM	Vitals
04:01 PM	Vitals
04:02 PM	Treatment
04:02 PM	Vitals
04:07 PM	Vitals
04:07 PM	Treatment
05:13 PM	Treatment
05:13 PM	Vitals
05:13 PM	Vitals
05:14 PM	Treatment
05:14 PM	Vitals
06:10 PM	Treatment
06:10 PM	Vitals
06:10 PM	Vitals
06:10 PM	Treatment
06:10 PM	Vitals
06:33 PM	Vitals
06:54 PM	Treatment
06:54 PM	Vitals

B6

B6

Client:
Patient:

B6

Patient History

06:54 PM	Vitals
08:22 PM	Treatment
08:22 PM	Vitals
08:22 PM	Vitals
08:22 PM	Treatment
08:22 PM	Vitals
08:22 PM	Treatment
08:26 PM	Treatment
08:26 PM	Treatment
08:26 PM	Vitals
08:26 PM	Treatment
08:26 PM	Vitals
08:27 PM	Treatment
08:27 PM	Vitals
09:08 PM	Vitals
09:08 PM	Vitals
09:13 PM	Purchase
09:48 PM	Treatment
10:00 PM	Treatment
10:00 PM	Vitals
10:00 PM	Vitals
10:01 PM	Treatment
10:01 PM	Vitals
10:55 PM	Treatment
10:55 PM	Vitals
10:55 PM	Vitals
11:13 PM	Treatment
11:17 PM	Treatment
11:17 PM	Treatment
11:58 PM	Treatment
11:58 PM	Vitals
11:58 PM	Vitals
11:59 PM	Treatment
11:59 PM	Vitals
12:20 AM	Vitals
12:46 AM	Vitals
12:46 AM	Treatment
12:56 AM	Treatment
12:56 AM	Vitals
12:56 AM	Vitals
01:53 AM	Treatment

B6

Client:
Patient:

B6

Patient History

01:53 AM	Vitals
01:53 AM	Vitals
01:53 AM	Treatment
01:53 AM	Vitals
02:57 AM	Treatment
02:57 AM	Vitals
02:57 AM	Vitals
03:16 AM	Treatment
03:30 AM	Treatment
03:31 AM	Treatment
03:31 AM	Vitals
03:31 AM	Treatment
03:31 AM	Vitals
03:58 AM	Treatment
03:58 AM	Vitals
03:58 AM	Vitals
03:59 AM	Treatment
03:59 AM	Vitals
04:53 AM	Treatment
04:53 AM	Vitals
04:53 AM	Vitals
06:05 AM	Treatment
06:05 AM	Vitals
06:05 AM	Vitals
06:05 AM	Treatment
06:05 AM	Vitals
06:26 AM	Treatment
06:26 AM	Vitals
06:26 AM	Vitals
07:12 AM	Treatment
07:18 AM	Treatment
07:18 AM	Vitals
07:18 AM	Treatment
07:18 AM	Vitals
07:18 AM	Treatment
07:18 AM	Vitals
07:22 AM	Vitals
08:29 AM	Treatment
08:29 AM	Vitals
08:29 AM	Vitals
09:05 AM	Treatment

B6

B6

Client: **B6**
Patient:

Patient History

09:05 AM	Vitals
09:05 AM	Vitals
09:11 AM	Purchase
09:11 AM	Purchase
09:43 AM	Purchase
09:46 AM	Treatment
09:46 AM	Vitals
09:46 AM	Vitals
09:47 AM	Treatment
09:47 AM	Vitals
10:16 AM	Treatment
10:26 AM	Vitals
10:31 AM	Treatment
10:31 AM	Treatment
10:31 AM	Vitals
10:44 AM	Vitals
10:46 AM	Treatment
10:46 AM	Vitals
10:46 AM	Vitals
10:47 AM	Treatment
10:47 AM	Vitals
11:51 AM	Treatment
11:51 AM	Vitals
11:51 AM	Vitals
11:56 AM	Treatment
11:56 AM	Treatment
11:56 AM	Vitals
12:07 PM	UserForm
12:59 PM	Treatment
12:59 PM	Vitals
12:59 PM	Vitals
01:01 PM	Treatment
01:01 PM	Vitals
01:03 PM	Treatment
01:03 PM	Vitals
01:06 PM	Treatment
01:06 PM	Vitals
01:07 PM	Treatment
01:07 PM	Vitals
01:16 PM	Labwork
01:16 PM	Purchase

B6

Client: **B6**
Patient:

Patient History

B6

1:32 PM	Purchase
1:48 PM	Treatment
1:48 PM	Vitals
1:48 PM	Vitals
3:33 PM	Treatment
3:33 PM	Vitals
3:33 PM	Vitals
3:35 PM	Treatment
3:35 PM	Vitals
3:53 PM	Treatment
3:53 PM	Vitals
3:53 PM	Vitals
3:57 PM	Treatment
3:57 PM	Vitals
4:01 PM	Vitals
4:01 PM	Treatment
4:08 PM	Vitals
4:49 PM	Prescription
4:54 PM	Prescription
4:55 PM	Prescription
4:56 PM	Prescription
5:02 PM	Purchase
5:13 PM	Treatment
5:13 PM	Vitals
6:42 PM	Appointment
10:14 AM	Treatment
10:54 AM	Patient Merge

B6

Appears this Way on Original

Appears this Way on Original



Cummings School of
Veterinary Medicine

Healing Animals. Helping Humans. Transforming Global Health.

B6

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Report Details - EON-372718

ICSR:	2059592																																										
Type Of Submission:	Initial																																										
Report Version:	FPSR.FDA.PETF.V.V1																																										
Type Of Report:	Both																																										
Reporting Type:	Voluntary																																										
Report Submission Date:	2018-12-04 10:00:58 EST																																										
Reporter is the Animal Owner:	Yes																																										
Reported Problem:	<table><tr><td>Problem Description:</td><td colspan="2">I was working from home. B6 sleeps next to me while I work. The doorbell rang. B6 jumped up and ran to the window. I got up and looked out the same window to see who it was because we weren't expecting anyone. I didnt know who it was so I did not answer the door. As soon as I said to B6 it's okay...he instantly fell to the ground and had a heart attack. Died in mid air. He was dead before he hit the ground. Devastated, screaming etc. It was horrible. I called 911, called the emergency vet hospital etc. The family came over to say their good byes. When he was taken to the Vet by our town dog service, the director told us she believes this is due to feeding him GF food. Apparently GF food is fatal to Golden retrievers. It causes widow makers. There is research done on this - not really advertised like it should be and it needs to be on the labels of GF dry dog food that this is potentially harmful to feed golden retrievers. Can be fatal. In our case it was. A perfectly healthy dog. Dead. Our family will never be the same. He was the best dog in the world and he is gone. BECAUSE of GF Food. If it cannot be taken off the shelf then it needs to be on the labels that it can be harmful to golden retrievers and other breeds. It causes dilated cardiomyopathy. It lowers certain levels in the dog and causes heart attacks.</td></tr><tr><td>Date Problem Started:</td><td colspan="2">B6</td></tr><tr><td>Concurrent Medical Problem:</td><td colspan="2">No</td></tr><tr><td>Outcome to Date:</td><td colspan="2">Died Other</td></tr><tr><td>Date of Death:</td><td colspan="2">B6</td></tr></table>			Problem Description:	I was working from home. B6 sleeps next to me while I work. The doorbell rang. B6 jumped up and ran to the window. I got up and looked out the same window to see who it was because we weren't expecting anyone. I didnt know who it was so I did not answer the door. As soon as I said to B6 it's okay...he instantly fell to the ground and had a heart attack. Died in mid air. He was dead before he hit the ground. Devastated, screaming etc. It was horrible. I called 911, called the emergency vet hospital etc. The family came over to say their good byes. When he was taken to the Vet by our town dog service, the director told us she believes this is due to feeding him GF food. Apparently GF food is fatal to Golden retrievers. It causes widow makers. There is research done on this - not really advertised like it should be and it needs to be on the labels of GF dry dog food that this is potentially harmful to feed golden retrievers. Can be fatal. In our case it was. A perfectly healthy dog. Dead. Our family will never be the same. He was the best dog in the world and he is gone. BECAUSE of GF Food. If it cannot be taken off the shelf then it needs to be on the labels that it can be harmful to golden retrievers and other breeds. It causes dilated cardiomyopathy. It lowers certain levels in the dog and causes heart attacks.		Date Problem Started:	B6		Concurrent Medical Problem:	No		Outcome to Date:	Died Other		Date of Death:	B6																										
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Product Use Stopped After the Onset of the Adverse Event:	Yes																																										
Adverse Event Abate After Product Stop:	Not Applicable																																										

		Product Use Started Again:	No
		Perceived Relatedness to Adverse Event:	Definitely related
		Other Foods or Products Given to the Animal During This Time Period:	No
	Manufacturer /Distributor Information:		
	Purchase Location Information:	Name:	WEGMANS
		Address:	B6
			United States
Animal Information:	Name:	B6	Golden Retriever
	Type Of Species:	Dog	
	Type Of Breed:	Retriever - Golden	
	Gender:	Male	
	Reproductive Status:	Neutered	
	Weight:	108 Pound	
	Age:	4 Years	
	Assessment of Prior Health:	Excellent	
	Number of Animals Given the Product:	3	
	Number of Animals Reacted:	1	
	Owner Information:		
	Healthcare Professional Information:	Practice Name:	B6
		Contact: Name:	B6
		Phone:	B6
		Email:	B6
		Address:	B6
			United States
		Type of Veterinarian:	Primary/regular veterinarian
		Date First Seen:	B6
		Permission to Release Records to FDA:	Yes
Sender Information:	Name:	B6	
	Address:	B6	
		United States	
	Contact:	Phone:	B6
		Email:	B6

	Permission To Contact Sender:	Yes
	Preferred Method Of Contact:	Phone
	Reported to Other Parties:	Other
Additional Documents:	Attachment:	TaurineDef.Goldens.pdf
	Description:	GF dry dog food -The condition is linked to a taurine deficiency. The recent cases included Golden and Labrador retrievers 2018 ,
	Type:	Investigation Report
	Attachment:	FDA Report GF Food linked to retrievers.pdf
	Description:	FDA Investigating Potential Connection Between Diet and Cases of Canine Heart Disease
	Type:	Investigation Report



Taurine Deficiency Induced Dilated Cardiomyopathy in Golden Retrievers

Taurine Deficiency Induced Dilated Cardiomyopathy in Golden Retrievers

by Janet Olson, DVM, DACVIM (Cardiology)

Dilated Cardiomyopathy (DCM) is becoming more prevalent in golden retrievers. Dr. Joshua Stern, DVM, PhD, DACVIM (Cardiology) at UC Davis, starting seeing a pattern and recognized that many cases were due to dietary taurine deficiency in golden retrievers fed grain free diets. Here is what we know so far:

Background

Taurine is an amino acid that is found in high concentrations in heart and muscle. Among its many functions, it aids in normal contractile function. Evidence shows that taurine helps mediate calcium channel transports and modulates calcium sensitivity of the myofibrils.

Taurine deficiency as a cause of dilated cardiomyopathy (DCM) is not a new issue. Taurine deficiency in cats was characterized by Pion et al in the late 1980s. Taurine deficiency has since been characterized as a cause of acquired DCM in dogs as well.

Currently identified diets of concern in these golden retrievers

According to Dr. Stern, the majority of cases they are seeing at UC Davis are from grain free diets that are high in legumes, like acana pork and squash singles.

What can we do? Some Guidelines.

- **ASK:** Make sure to ask your clients (whether they own golden retrievers or not) what diets they are currently or previously have fed their dogs
- **INFORM:** Inform your clients of this issue
- **ACT:** If they are currently on, or have been on grain free diets in the past, submit baseline WHOLE blood taurine levels and AFTER submitting the WHOLE blood taurine levels, switch diets if indicated. Temporary taurine supplementation may be necessary. If levels are low, take baseline chest films, if cardiomegaly noted on the radiographs, an echocardiogram is indicated to complete your baseline evaluation. Additional therapy may be indicated.
- **GET MORE INFORMATION:** Dr. Stern has compiled many of the studies in the following links: <https://www.dropbox.com/.../AAB1sDvLZe6gE3httPskz9-0a...> Taurine Deficient DCM in Dogs

Veterinary Cardiology Specialists, PLLC
612-353-7440

www.vetcardiologist.com <> janet.olson@vetcardiologist.com <> www.facebook.com/vetcardiologist

Report Details - EON-374786				
ICSR:	2060599			
Type Of Submission:	Initial			
Report Version:	FPSR.FDA.PETF.V.V1			
Type Of Report:	Adverse Event (a symptom, reaction or disease associated with the product)			
Reporting Type:	Voluntary			
Report Submission Date:	2018-12-27 10:09:22 EST			
Reported Problem:	Problem 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 taurine 328		
	Date Problem Started:	08/20/2018		
	Concurrent Medical Problem:	Yes		
	Pre Existing Conditions:	Hypothyroidism, incontinence, history of UTIs/crystalluria		
	Outcome to Date:	Stable		
Product Information:	Product Name:	Acana Free Run Poultry dry		
	Product Type:	Pet Food		
	Lot Number:			
	Package Type:	BAG		
	Product Use Information:	Description:	Fed since approximately 9/2016 (see diet history form) Changed to Pro Plan Weight Management Aug 2018	
	Manufacturer /Distributor Information:			
	Purchase Location Information:			
Animal Information:	Name:	[B6]		
	Type Of Species:	Dog		
	Type Of Breed:	Doberman Pinscher		
	Gender:	Female		
	Reproductive Status:	Neutered		
	Weight:	38.1 Kilogram		
	Age:	10 Years		
	Assessment of Prior Health:	Excellent		
	Number of Animals Given the Product:	2		
	Number of Animals Reacted:	2		
	Owner Information:	Owner Information provided:	Yes	
		Contact:	Name:	[B6]
			Phone:	[B6]
			Email:	[B6]
		Address:	[B6] United States	
Healthcare Professional Information:	Practice Name:	Tufts Cummings School of Veterinary Medicine		
	Contact:	Name:	Lisa Freeman	

		Phone: (508) 887-4523
		Email: lisa.freeman@tufts.edu
		Address: 200 Westboro Rd North Grafton Massachusetts 01536 United States
Sender Information:	Name:	Lisa Freeman
	Address:	200 Westboro Rd North Grafton Massachusetts 01536 United States
	Contact:	Phone: 5088874523 Email: lisa.freeman@tufts.edu
	Permission To Contact Sender:	Yes
	Preferred Method Of Contact:	Email
Additional Documents:	Attachment:	B6 medical records.pdf
	Description:	Medical records
	Type:	Medical Records

From: Related PFR Event <pfrsignificantactivitycreation@fda.hhs.gov>

To: Carey, Lauren; Cleary, Michael [REDACTED] **B6**
[REDACTED] **B6**

Sent: 3/21/2019 9:41:00 PM

Subject: Acana Free Run Poultry dry: Lisa Freeman - EON-383005

Attachments: 2064397-report.pdf; 2064397-attachments.zip

A PFR Report has been received and Related PFR Event [EON-383005] has been created in the EON System.

A "PDF" report by name "2064397-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 "2064397-attachments.zip" and is attached to this email notification.

Below is the summary of the report:

EON Key: EON-383005

ICSR #: 2064397

EON Title: Related PFR Event created for Acana Free Run Poultry dry; 2064397

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

Product information

Individual Case Safety Report Number: 2064397

Product Group: Pet Food

Product Name: Acana Free Run Poultry dry

Description: Housemate was diagnosed with DCM ([REDACTED] **B6** previously reported). [REDACTED] **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 taurine 328

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: 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
Acana Free Run Poultry dry		

This report is linked to:

Initial EON Event Key: EON-374786

Initial ICSR: 2060599

Sender information

Lisa Freeman

200 Westboro Rd

North Grafton, MA 01536

USA

Owner information

B6

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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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.

Report Details - EON-383005

ICSR:	2064397																																															
Type Of Submission:	Followup																																															
Report Version:	FPSR.FDA.PETF.V.V1																																															
Type Of Report:	Adverse Event (a symptom, reaction or disease associated with the product)																																															
Reporting Type:	Voluntary																																															
Report Submission Date:	2019-03-21 17:33:50 EDT																																															
Initial Report Date:	12/27/2018																																															
Parent ICSR:	2060599																																															
Follow-up Report to FDA Request:	Yes																																															
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Number of Animals Given the Product:	2																																															
Number of Animals Reacted:	2																																															
Owner Information:	<table><tr><td>Owner Information provided:</td><td>Yes</td></tr><tr><td>Contact:</td><td><table><tr><td>Name:</td><td>B6</td></tr><tr><td>Phone:</td><td></td></tr><tr><td>Email:</td><td></td></tr></table></td></tr><tr><td>Address:</td><td>B6</td></tr></table>		Owner Information provided:	Yes	Contact:	<table><tr><td>Name:</td><td>B6</td></tr><tr><td>Phone:</td><td></td></tr><tr><td>Email:</td><td></td></tr></table>	Name:	B6	Phone:		Email:		Address:	B6																																		
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Name:	B6																																															
Phone:																																																
Email:																																																
Address:	B6																																															

			<div style="border: 1px dashed black; padding: 2px; text-align: center;"> B6 United States </div>
	Healthcare Professional Information:	Practice Name: Tufts Cummings School of Veterinary Medicine Contact:	Name: Lisa Freeman Phone: (508) 887-4523 Email: lisa.freeman@tufts.edu Address: 200 Westboro Rd North Grafton Massachusetts 01536 United States
Sender Information:	Name: Lisa Freeman Address: 200 Westboro Rd North Grafton Massachusetts 01536 United States Contact:	Phone: 5088874523 Email: lisa.freeman@tufts.edu Permission To Contact Sender: Yes Preferred Method Of Contact: Email Reported to Other Parties: None	
Additional Documents:	Attachment: Medical Record.pdf Description: Updated diet history, echo, ECG and Holter monitor Type: Medical Records		

B6

Client:

B6

Address:

All Medical Records

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:

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 B6 - HOLTER REMOVAL

Client:
Patient:

B6

Disposition/Recommendations

Appears this way on Original

Client:
Patient:

B6

Appears this way on Original

Client: **B6**
Patient:

Cummings
Veterinary Medical Center
AT TUFTS UNIVERSITY

B6

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



4/49

B6

B6

Printed Thursday, March 21, 2019

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>

B6

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:

B6

Tel:

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:

Lab Results **B4, B6** CARDIOPET proBNP 12/12/18

B4, B6

Client: **B6** Patient: **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**

B4, B6
TUFTS UNIVERSITY
200 WESTBORO RD
NORTH GRAFTON, Massachusetts 01536-1828
508-839-5395
Account: **B6**

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:
Patient:

B6

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

1. How would you assess your pet's appetite? On a scale of 1-10 with 1 being poor and 10 being excellent: 10
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 Meals divided into 3 daily servings. I'm scared of blast. Her brother passed due to blast 10/15.
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 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 ½ cup	2x/day	Jan 2018
85% lean hamburger	microwaved	3 oz	1x/week	Jan 2015
Pupperoni original beef flavor	treat	½	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 salt 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**

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="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 CVS Natures Bounty 1200mg 360 omega 3 | 2 per day but unsure, have questions |
| Coenzyme Q10 | <input type="radio"/> Yes <input type="radio"/> No | |
| Other (please list): | | |
| Example: Vitamin C | Nature's Bounty | 500 mg tablets – 1 per day |
| Thyrotab | 0.8mg | 1 tablet twice 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): 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:
Patient:

B6

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	1/4	1x/day	Aug 2015
Rawhide	treat	6 inch twist	1x/week	Dec 2015
Yucca Free Raw Poultry		1.5 cups	2x/day	9/14?
Blueberries, organic		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:
Patient:

B6

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	
Hill's 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:

Patient:

B6

Vitals Results

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:
Patient:

B6

ECG from Cardio

B6

8/20/2018 1:25:05 PM

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 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:
Patient:

B6

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:
Patient:

B6

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

B6	12:48 PM	UserForm	B6
	01:07 PM	Treatment	
	01:20 PM	UserForm	
	01:25 PM	Vitals	
	01:26 PM	Purchase	
	01:27 PM	Purchase	
	01:27 PM	Purchase	
	09:42 AM	Appointment	
	07:22 PM	Appointment	
	11:04 AM	UserForm	
	11:07 AM	Treatment	
	11:59 AM	Purchase	
	11:59 AM	Purchase	
	12:09 PM	UserForm	
	12:24 PM	Purchase	
	12:47 PM	Appointment	
	11:05 AM	UserForm	
	11:30 AM	UserForm	
	11:58 AM	Purchase	
	11:58 AM	Purchase	
	11:58 AM	Purchase	
	12:04 PM	Treatment	
	12:31 PM	Purchase	
	01:10 PM	Appointment	
	09:24 AM	Appointment	
	02:34 PM	Purchase	

Patient Account History	Description	Qty	price	Extended	Disc	Pmt
-------------------------	-------------	-----	-------	----------	------	-----

Client: **B6**
Patient:

Patient Account History	Description	Qty	price	Extended	Disc	Pmt
Monday, 20 August 2018 13:27	Appointment: Cardiology Study	1.000	B6			

Client: **B6**
Patient:

Patient Account History	Description	Qty	price	Extended	Disc	Pmt
Wednesday, 12 December 2018 11:59	Appointment: Cardiology Study	1.000	B6			

Client: **B6**
Patient:

Patient Account History	Description	Qty	price	Extended	Disc	Pmt
Wednesday, 12 December 2018 12:24	NT Pro BNP Canine B4, B6 2665) - FHSA	1.000	B6			

Client: **B6**
Patient:

Patient Account History	Description	Qty	price	Extended	Disc	Pmt
Wednesday, 06 March 2019 11:57	Appointment: Cardiology Study	1.000	B6			

Client: **B6**
Patient: **B6**

Patient Account History	Description	Qty	price	Extended	Disc	Pmt
Wednesday, 06 March 2019 12:31	Alba Holter Monitor	1.000	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	B6			

B6

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

Student: B6

Cardiology Technician:

B6

Admit Date: B6 33 PM

Discharge D:

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:

B6

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

Client ID: B6

B6

Canine

Years Old Female (Spayed) Doberman

Black/Tan

Cardiology Appointment Report

Date: 8/20/2018

Attending Cardiologist:

B6

Cardiology Resident:

B6

Cardiology Technician:

B6

Student:

B6

Presenting Complaint:

Brother from same litter was unexpectedly diagnosed with DCM with secondary CHF recently

B6

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:

Medication: Thyro-Tabs 0.8 mg tablets

Formulation/Tab Size: 1 tab PO BID

Administration Frequency: q 12 hrs

Need refills? No

Cardiac Physical Examination:

General PE:

MM Color and CRT: pink and moist,

CRT < 2 seconds

BCS (1-9): 4/9

BW (kg): 38.1

Heart rate: 104 bpm

Respiratory rate: panting, normal effort

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

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:

- | | |
|---|---|
| <input checked="" type="checkbox"/> Normal | <input type="checkbox"/> Mild ascites |
| <input type="checkbox"/> Hepatomegaly | <input type="checkbox"/> Marked ascites |
| <input type="checkbox"/> Abdominal distension | |

Problems:

Apparently healthy animal

Genetic predisposition to DCM

Differential Diagnoses:

DCM

Diagnostic plan:

- | | |
|--|---|
| <input checked="" type="checkbox"/> Echocardiogram | <input type="checkbox"/> Dialysis profile |
| <input 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:

General/2-D findings:

Normal LV wall thicknesses with normal LV cavity size and no LA enlargement. Mild thickening of the MV. Mildly decreased contractile function.

Doppler findings:

WNL

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:

sinus arrhythmia

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:

- | | |
|--|-------------------------------|
| <input checked="" type="checkbox"/> Ia | <input type="checkbox"/> IIIa |
|--|-------------------------------|

☐ Ib
☐ II

☐ IIIb

ACVIM Classification:

☐ A
☒ B1
☐ B2

☐ C
☐ D

M-Mode

IVSd

LVIDd

LVPWd

IVSs

LVIDs

LVPWs

%FS

Ao Diam

LA Diam

LA/Ao

Max LA

B6

cm
cm
cm
cm
cm
cm
%
cm
cm

cm

M-Mode Normalized

IVSdN

LVIDdN

LVPWdN

IVSsN

LVIDsN

LVPWsN

Ao Diam N

LA Diam N

B6

{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}

2D

SA LA

Ao Diam

SA LA / Ao Diam

LVIld A4C

LVEDV MOD A4C

LVLs A4C

LVESV MOD A4C

LVEF MOD A4C

SV MOD A4C

B6

cm
cm

cm
ml
cm
ml
%
ml

Doppler

MV E Vel

MV DecT

MV A Vel

MV E/A Ratio

E'

B6

m/s
ms
m/s

m/s

A'
E/E'
PV Vmax
PV maxPG
AV Vmax
AV maxPG

B6

m/s

m/s
mmHg
m/s
mmHg

B6

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: B6 3 PM

Discharge Date:

B6

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:

B6

B6

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/>

B6

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 Female (Spayed) Doberman
Black/Tan

Cardiology Appointment Report

Date: 12/12/2018

Attending Cardiologist:

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

General Medical History:

Normal behavior, eating and drinking well, no v/d/s, occasional coughing, no more than normal
No more voiding uncontrollably in sleep, some leaking, but O feels urinary incontinence has greatly improved with diet

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

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

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 type="checkbox"/> Good | <input type="checkbox"/> Pulsus paradoxus |
| <input checked="" 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:

- | | |
|------------------------------|-------------------------------------|
| <input type="checkbox"/> Yes | <input type="checkbox"/> 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:

Echocardiogram Findings:

General/2-D findings:

Normal LV wall thickness with fair contractile function that is slightly decreased compared to previously. The LV cavity is slightly bigger than previously although not when compared with SMOD. The LA is normal in size. The MV is mildly thickened with no prolapse or ruptured chordae. The PA is smaller than the aorta. The RH is subjectively within normal limits. No pleural or pericardial effusion. No B-lines.

Doppler findings:

No MR
No TR
Normal aortic velocity
Normal pulmonic velocity

Mitral inflow:

- ☐ Summated
- ☐ Normal
- ☒ Delayed relaxation
- ☐ Pseudonormal
- ☐ Restrictive

ECG findings:

Sinus rhythm during the echocardiogram.

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 assessed, 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	B6	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

B6

m/s
ms
m/s
m/s

m/s

m/s
m/s
mmHg
m/s
mmHg

B6

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

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 pimobendan 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:

B6

B6

Recommended Medications:

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/>

B6

Case: [B6]

Owner: [B6]

Discharge Instructions

B6

Patient ID: B6

B6

Canine

Years Old Female (Spayed) Doberman
Black/Tan

Cardiology Appointment Report
ENROLLED IN DCM DIET STUDY

Date: 3/6/2019

Attending Cardiologist:

B6

Cardiology Resident:

B6

(primary)

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

General Medical History:

Doing well at home, owner has no concerns. Asymptomatic.

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

Current Medications Pertinent to CV System:

Medication: Thyro-Tabs 0.8 mg tablets
Formulation/Tab Size: 1 tab PO BID
Administration Frequency: q 12 hrs
Need refills? No

Medication: Pimobendan
Formulation/Tab Size: 10mg tiny tab
Administration Frequency: 1 tab PO BID
Need refills? Just got refilled, via Wedgewood

Cardiac Physical Examination:

General PE:	Heart rate: 144
MM Color and CRT: pink, moist, crt <2s	Respiratory rate: panting
BCS (1-9): 4	Temp (if possible):
BW (kg): 35.8 kg	

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:

Echocardiogram Findings:**General/2-D findings:**

Normal LV wall thickness with fair contractile function that is slightly improved compared to previously. The LV cavity is smaller today compared to the previous examination on all the measurements. The LA is normal in size. The MV is mildly thickened with no prolapse or ruptured chordae. The PA is smaller than the aorta. The RH is subjectively within normal limits. No pleural or pericardial effusion. No B-lines.

Doppler findings:

No MR

No Tr

Normal aortic velocity

Normal pulmonic velocity

Mitral inflow:

- ☐ Summated
- ☐ Normal
- ☒ Delayed relaxation
- ☐ Pseudonormal
- ☐ Restrictive

ECG findings:

Heart rate: 160

P wave height: 0.2 mV (<0.4 mV)

P wave duration: 0.04s (<0.04s)

PR interval: 0.08s (0.06-0.13s)
 R wave height: 1.5 mV (< 3.0 mv)
 QRS duration: 0.08s (<0.06s) QRS morphology
 RR interval: 0.4s
 QT interval: 0.20s (0.15-0.25s)
 MEA: +30
 Interpretation: Sinus tachycardia with frequent APCs and left-sided, isolated, VPCs

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	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		
TAPSE		cm

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)

Ao Diam N

(0.680 - 0.890)

LA Diam N

(0.640 - 0.900) !

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)

%

%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

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

AV Vmax

m/s

AV maxPG

mmHg

PV Vmax

m/s

B6

PV maxPG

B6

mmHg

Report Details - EON-383014

ICSR:	2064400	
Type Of Submission:	Initial	
Report Version:	FPSR.FDA.PETF.V.V1	
Type Of Report:	Adverse Event (a symptom, reaction or disease associated with the product)	
Reporting Type:	Voluntary	
Report Submission Date:	2019-03-21 20:24:19 EDT	
Reporter is the Animal Owner:	Yes	
Reported Problem:	Problem Description:	My dog was diagnosed with congestive heart failure and cardiomyopathy. He eats freshpet dog food. I don't know if that's why he got it but I've read some dog foods can cause this, especially grain free. This has oats so I don't know if that's considered grain free or not but in case it is helpful I am sharing.
	Date Problem Started:	01/03/2016
	Concurrent Medical Problem:	Yes
	Outcome to Date:	Worse/Declining/Deteriorating
Product Information:	Product Name:	Freshpet select roasted meals chicken flavor
	Product Type:	Pet Food
	Lot Number:	
	Package Type:	BAG
	Package Size:	5.5 Pound
	Possess Unopened Product:	Yes
	Storage Conditions:	I buy a new bag of freshpet every week and a half
	Product Use Information:	Description: He has been on the same type of food for probably four or five years. I don't know if this food contribute to him developing dilated cardiomyopathy and congestive heart failure or not. He also has a heart murmur. But then I heard that that grain-free dog food can be related to congestive heart failure. Also I heard it's not that common in a shitzu he is a shitzu bichon dog. I just want to report it in case there may be some sort of connection.
	Product Use Stopped After the Onset of the Adverse Event:	No
	Perceived Relatedness to Adverse Event:	Possibly related
	Manufacturer /Distributor Information:	
	Purchase Location Information:	
Animal Information:	Name:	B6
	Type Of Species:	Dog
	Type Of Breed:	Shih Tzu
	Gender:	Male
	Reproductive Status:	Neutered
	Weight:	20 Pound
	Age:	10 Years
	Assessment of Prior Health:	Good
	Number of Animals Given the Product:	1

	Number of Animals Reacted:	1	
	Owner Information:		
	Healthcare Professional Information:	Practice Name:	B6
	Contact:	Name:	B6
		Phone:	B6
	Type of Veterinarian:	Primary/regular veterinarian	
Sender Information:	Name:		
	Address:	B6	
		United States	
	Contact:	Phone:	B6
		Email:	
	Reporter Wants to Remain Anonymous:	No	
	Permission To Contact Sender:	Yes	
Preferred Method Of Contact:	Email		
Reported to Other Parties:	None		
Additional Documents:			

Report Details - EON-372606				
ICSR:	2059540			
Type Of Submission:	Initial			
Report Version:	FPSR.FDA.PETF.V.V1			
Type Of Report:	Adverse Event (a symptom, reaction or disease associated with the product)			
Reporting Type:	Voluntary			
Report Submission Date:	2018-12-03 09:27:13 EST			
Reported Problem:	Problem Description:	Littermate diagnosed with DCM. Initial taurine level (plasma only) was 42. WB taurine submitted = 304 Eats BEG diet Mildly reduced contractile function on echo NT-proBNP = 2766; troponin mildly elevated at 0.1 (istat) and 0.096 at Texas A&M Will recheck in 3-4 months		
	Date Problem Started:	11/08/2018		
	Concurrent Medical Problem:	Yes		
	Pre Existing Conditions:	Chronic diarrhea Hx of anaplasmosis		
	Outcome to Date:	Stable		
Product Information:	Product Name:	Acana Lamb and Apple singles		
	Product Type:	Pet Food		
	Lot Number:			
	Package Type:	BAG		
	Product Use Information:	Description:	Fed since 2016	
	Manufacturer /Distributor Information:			
	Purchase Location Information:			
Animal Information:	Name:	B6		
	Type Of Species:	Dog		
	Type Of Breed:	Irish Wolfhound		
	Gender:	Male		
	Reproductive Status:	Intact		
	Weight:	82.7 Kilogram		
	Age:	3 Years		
	Assessment of Prior Health:	Good		
	Number of Animals Given the Product:	1		
	Number of Animals Reacted:	1		
	Owner Information:	Owner Information provided:	Yes	
		Contact:	Name:	B6
			Phone:	
			Email:	
	Address:	B6 United States		
Healthcare Professional Information:	Practice Name:	Tufts Cummings School of Veterinary Medicine		
	Contact:	Name:	Lisa Freeman	
		Phone:	(508) 887-4523	

			Email: lisa.freeman@tufts.edu
		Address:	200 Westboro Rd North Grafton Massachusetts 01536 United States
Sender Information:	Name:	Lisa Freeman	
	Address:	200 Westboro Rd North Grafton Massachusetts 01536 United States	
	Contact:	<div> <div>Phone</div> <div>0626-7190</div> </div> <div> Email: lisa.freeman@tufts.edu </div>	
	Permission To Contact Sender:	Yes	
	Preferred Method Of Contact:	Email	
Additional Documents:	Attachment:	B6	compiled records.pdf
	Description:	Medical records	
	Type:	Medical Records	

Report Details - EON-382951

ICSR:	2064360																																															
Type Of Submission:	Followup																																															
Report Version:	FPSR.FDA.PETF.V.V1																																															
Type Of Report:	Adverse Event (a symptom, reaction or disease associated with the product)																																															
Reporting Type:	Voluntary																																															
Report Submission Date:	2019-03-21 11:55:12 EDT																																															
Initial Report Date:	12/03/2018																																															
Parent ICSR:	2059540																																															
Follow-up Report to FDA Request:	Yes																																															
Reported Problem:	<table><tr><td>Problem Description:</td><td colspan="2">Littermate diagnosed with DCM. Initial taurine level (plasma only) was 42. WB taurine submitted = 304 Eats BEG diet Mildly reduced contractile function on echo NT-proBNP = 2766, troponin mildly elevated at 0.1 (istat) and 0.096 at Texas A&M Will recheck in 3-4 months Follow-up - NT-proBNP, troponin, echo and ECG</td></tr><tr><td>Date Problem Started:</td><td colspan="2">11/08/2018</td></tr><tr><td>Concurrent Medical Problem:</td><td colspan="2">Yes</td></tr><tr><td>Pre Existing Conditions:</td><td colspan="2">Chronic diarrhea Hx of anaplasmosis</td></tr><tr><td>Outcome to Date:</td><td colspan="2">Stable</td></tr></table>			Problem Description:	Littermate diagnosed with DCM. Initial taurine level (plasma only) was 42. WB taurine submitted = 304 Eats BEG diet Mildly reduced contractile function on echo NT-proBNP = 2766, troponin mildly elevated at 0.1 (istat) and 0.096 at Texas A&M Will recheck in 3-4 months Follow-up - NT-proBNP, troponin, echo and ECG		Date Problem Started:	11/08/2018		Concurrent Medical Problem:	Yes		Pre Existing Conditions:	Chronic diarrhea Hx of anaplasmosis		Outcome to Date:	Stable																															
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Phone:																																																
Email:																																																
Address:	B6																																															

			B6
			United States
	Healthcare Professional Information:	Practice Name:	Tufts Cummings School of Veterinary Medicine
		Contact:	Name: Lisa Freeman Phone: (508) 887-4523 Email: lisa.freeman@tufts.edu
		Address:	200 Westboro Rd North Grafton Massachusetts 01536 United States
Sender Information:	Name:	Lisa Freeman	
	Address:	200 Westboro Rd North Grafton Massachusetts 01536 United States	
	Contact:	Phone: 5088874523 Email: lisa.freeman@tufts.edu	
	Permission To Contact Sender:	Yes	
	Preferred Method Of Contact:	Email	
Additional Documents:	Attachment:	Medical Record 2.pdf	
	Description:	Follow-up medical records	
	Type:	Medical Records	
	Attachment:	Medical Record 1.pdf	
	Description:	Follow-up medical records	
	Type:	Medical Records	

Client: **B6**
Patient:

IDEXX BNP - 3/5/2019

B4 Reference Laboratories

Client: **B6** Patient: **B6**

Client: **B6**
Patient:
Species: CANINE
Breed:
Gender: MALE
Age: 3Y

Date: 03/05/2019
Requisition #: 337144
Accession #: **B6**
Ordered by: FREEMAN

B6
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

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:

Texas A and M Troponin

B6

B6

B6

Comments:

B6

Client:
Patient:

B6

Diet Hx 3/5/19

CARDIOLOGY DIET HISTORY FORM

Please answer the following questions about your pet

Pet's name: **B6** Owner's name: **B6** Today's date: 3/5/19

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
Hills Prescription Diet i/d digestive Care chicken & vegetable				
Stew Canned		1/2 can	2x/day	Since 11/18
Hills Presc diet 1/2 chicken				
flavor dry dog food		3 cups	2x/day	Since 11/18
2 months prior to above I was trying him on several types of food due to diarrhea (raw diet chicken or beef) but continued with diarrhea so went to Hills				

*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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No <u>stopped 2 months ago</u>	<u>1000 2x/day</u>
Carnitine	<input type="checkbox"/> Yes <input type="checkbox"/> No	<u>x 4 months</u>
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

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 when needed
☐ I put them in a Pill Pocket or similar product
☐ I put them in foods (list foods): _____

Client: **B6**
Patient:

Vitals Results

B6	7:44 PM	Nursing note	B6
	1:36 PM	Heart Rate (/min)	
	1:37 PM	Respiratory Rate	
	1:38 PM	Temperature (F)	
	0:04:53 AM	Weight (kg)	
	04:41 AM	Weight (kg)	

Client:
Patient:

B6

ECG from Cardio

B6

11/8/2018 12:00:47 PM

Page 1 of 2

Tufts University
Tufts Cummings School of Vet Med
Cardiology

B6

Client: **B6**
Patient: **B6**

ECG from Cardio

B6

11/8/2018 12:00:47 PM

Page 2 of 2

Tufts University
Tufts Cummings School of Vet Med
Cardiology

B6

Client:
Patient:

B6

ECG from Cardio

B6

11/8/2018 12:00:59 PM

Tufts University
Tufts Cummings School of Vet Med
Cardiology

B6

Client: **B6**
Patient:

Patient History

08:35 PM	UserForm
08:36 PM	Purchase
10:53 PM	Treatment
10:55 PM	Prescription
11:03 PM	UserForm
11:04 PM	Purchase
10:45 PM	Prescription
10:48 PM	Purchase
10:48 PM	Purchase
06:01 AM	UserForm
06:01 AM	Email
01:12 PM	Purchase
02:15 PM	UserForm
03:18 PM	Purchase
03:18 PM	Treatment
03:30 PM	UserForm
03:45 PM	Treatment
03:45 PM	Deleted Reason
03:47 PM	Treatment
03:47 PM	Vitals
04:41 PM	Vitals
04:41 PM	Vitals
04:41 PM	Vitals
02:38 AM	UserForm
02:38 AM	Email
10:40 AM	Appointment
10:04 AM	UserForm
10:04 AM	Vitals
11:07 AM	Treatment
11:14 AM	UserForm
11:30 AM	Purchase
03:31 PM	Labwork
03:34 PM	Purchase
03:34 PM	Purchase
03:34 PM	Purchase
01:04 PM	Appointment

B6

B6

02/19/2019 06:07 PM Appointment

Client: **B6**
Patient:

Patient History

B6	09:51 AM	Purchase
	09:55 AM	UserForm
	09:59 AM	Treatment
	10:04 AM	Vitals
	10:28 AM	UserForm
	11:12 AM	Appointment
	11:12 AM	Email
	03:03 PM	Purchase

B6

Patient Account History	Description	Qty	price	Extended	Disc	Pmt
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B6

Discharge Instructions

Patient

Name: B6
Species: B6
Breed: Male Irish Wolfhound
Birthdate: B6

Owner

Name: B6
Address: B6

Patient ID: 337144

Attending Cardiologist:

B6

Cardiology Resident:

B6

Cardiology Technician:

B6

Student:

B6

Discharge Date: 11/8/2018

Diagnoses: Mildly low taurine

Clinical Findings:

Thank you for bringing B6 to Tufts Cardiology Service for screening for dilated cardiomyopathy (DCM).

On physical exam, B6 was bright, alert, and responsive and his vital parameters (heart rate and respiratory rate) were within normal limits. We did not hear any obvious heart murmurs or arrhythmias.

We performed an echocardiogram (ultrasound of the heart) today, which revealed that B6's heart did not show any obvious signs of DCM. However, in early stages of the disease, the ventricles (lower chambers of the heart) are not dilated. Similarly, the atria (upper chambers of the heart) are not obviously dilated. B6's heart had very mildly reduced contractility, which could be normal for him or could possibly be an early indication of DCM. Additionally, the speed of blood flow through the aorta, the main artery of the heart that supplies the blood to the rest of the body, is mildly increased, but this is not a concerning finding.

Overall, B6 looks good and he does not appear to have significant heart disease. Given his low taurine levels, we would like to begin taurine supplementation as instructed below.

Our Cardiology and Nutrition team here at Tufts are conducting a study on DCM and its correlation with diet. Although Seamus does not have DCM, the study includes normal cardiac dogs that have a history of a grain-free diet. You have elected to enroll B6 in the study so we pulled some blood for that today.

Diet Suggestions:

B6

B6

- 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 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/>).

Exercise Recommendations:

B6 may be allowed to dictate his own activity level.

Recommended Medications:

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/cvmc/clinical-studies

Case: B6

Owner: B6

Discharge Instructions

B6

B6

Patient ID: 337144

B6

Canine

B6 Years Old Male Irish Wolfhound
Brindle

Cardiology Appointment Report
ENROLLED IN DCM DIET STUDY

Date: 11/8/2018

Attending Cardiologist:



B6

Cardiology Resident:



B6



B6

DVM, MSc

Cardiology Technician:



B6

CVT, VTS (Cardiology)

Student: B6

Presenting Complaint: Screen for DCM

Concurrent Diseases:

Hx of Anaplasmosis Dec. 2016, Dec. 2017

Hx of chronic diarrhea - stable

General Medical History:

B6 has history of chronic diarrhea since puppyhood - owner suspects it's when she changed from puppy food to adult food. Owner acquired B6 as a puppy. Owner reports that B6 pants a lot, but owner feels it is increased. Owner sent sputum to a diagnostic lab to find out allergens and sensitivities. Eating and drinking normally. No c/s/v/PUPD, diarrhea currently resolved with metronidazole. B6 littermate was recently diagnosed with DCM about 6 months ago and was also on a grain free diet. Owner requested taurine levels by rDVM - owner sent blood sample (plasma) to UC Davis for taurine levels, plasma level was 42. Currently being treated for diarrhea, lost weight during bout of diarrhea and diet change, but has gained weight back.

Diet and Supplements:

Previously fed Taste of the Wild (grain-free)

Acana in 2016

Hill's I/D kibble and canned - for 4 weeks

Fortiflora SID

Metronidazole 750mg PO BID

B12 injections 1x/week
Heartgard and Seresto collar

Cardiovascular History:

Prior CHF diagnosis? No

Prior heart murmur? No

Prior ATE? No

Prior arrhythmia? No

Monitoring respiratory rate and effort at home? Normal effort, pants all the time except when sleeping

Cough? No

Shortness of breath or difficulty breathing? No

Syncope or collapse? No

Sudden onset lameness? No

Exercise intolerance? No

Current Medications Pertinent to CV System:

None

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
- ☐ Abdominal distension
- ☐ Mild ascites
- ☐ Marked ascites

Problems:

Low plasma taurine (42, ref range 60-120)

Differential Diagnoses:

R/o dietary induced taurine deficiency → DCM

Diagnostic plan:

- ☒ Echocardiogram
- ☐ Chemistry profile
- ☐ ECG
- ☐ Renal profile
- ☐ Blood pressure
- ☐ Dialysis profile
- ☐ Thoracic radiographs
- ☐ NT-proBNP
- ☐ Troponin I
- ☐ Other tests:

Echocardiogram Findings:

B6

Doppler findings:

AV Vmax 2 m/s

Mitral inflow:

- ☐ Summated
- ☒ Normal
- ☐ Delayed relaxation
- ☐ Pseudonormal
- ☐ Restrictive

ECG findings:

NSR, HR 80 bpm

Assessment and recommendations:

Echocardiogram reveals relatively normal cardiac structure and function. The LV contractile function is low normal, so early DCM cannot be definitively ruled out. Patient was enrolled in the DCM study, and whole blood and plasma taurine were submitted; recommend supplementing taurine 1000mg PO BID until those results are back. Recheck per study protocol in 3 and 6 months.

Final Diagnosis:

Low plasma taurine

No clear evidence of DCM

Heart Failure Classification Score:

ACVIM Classification:

☒ A

☐ B1

☐ B2

☐ C

☐ D

M-Mode

IVSd

LVIDd

LVPWd

IVSs

LVIDs

LVPWs

%FS

B6

cm

cm

cm

cm

cm

cm

%

M-Mode Normalized

IVSdN

LVIDdN

LVPWdN

IVSsN

LVIDsN

LVPWsN

B6

{0.29 - 0.52}

{1.35 - 1.73}

{0.33 - 0.53}

{0.43 - 0.71}

{0.79 - 1.14}

{0.53 - 0.78}

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 A2C

LVEDV MOD A2C

LVls A2C

LVESV MOD A2C

LVEF MOD A2C

SV MOD A2C

LVld IAX

B6

cm

cm

cm

cm

cm

ml

cm

cm

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ml

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ml

cm

ml

%

ml

cm

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

Doppler

MV E Vel
MV DecT
MV A Vel
MV E/A Ratio
E'
A'
E/E'
AV Vmax
AV maxPG

B6

cm
ml
ml
cm
cm
ml
ml
BPM
%
%
ml
ml
l/min
l/min

B6

m/s
ms
m/s

m/s
m/s

m/s
mmHg

B6

Discharge Instructions

Patient

Name: B6

Species: Canine

Brindle Male Irish Wolfhound

Birthdate: B6

Owner

Name: B6

Patient ID: 337144

Address:

B6

Attending Cardiologist:



B6

Cardiology Resident:



B6

Cardiology Technician:



B6

T, VTS (Cardiology)

CVT

Student:

B6

Appointment Date: 3/5/2019

Diagnosis: Stable to slightly improved healthy heart

Clinical Findings:

Thank you for bringing B6 to Tufts Cardiology Service for recheck examination as part of the dilated cardiomyopathy (DCM) study. On physical exam, Seamus was bright, alert, and responsive and his vital parameters (heart rate and respiratory rate) were within normal limits. We did not hear any obvious heart murmurs or arrhythmias.

We performed an echocardiogram (ultrasound of the heart) today, which revealed that Seamus' heart was stable since his last visit and did not show any obvious signs of DCM. He may even have somewhat improved contractile function. Overall, B6 looks good and he does not appear to have significant heart disease. We also took blood samples today to check for biomarkers of heart disease which had been slightly elevated at this last visit. We will call you with the results of these tests.

Diet Suggestions:

It is great that Seamus is doing well on the Hills I/D diet! He has gained over 13 pounds since his last visit so we recommend cutting back just a little bit on how much he is eating. You can start with feeding a total of 5 cups of dry food and 1/2 can of wet food per day. If he is getting treats at home, it is also important to cut back on his regular diet to account for those extra calories.

Exercise Recommendations:

B6 may be allowed to dictate his own activity level.

Recommended Medications:

B6

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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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: 337144

B6

Canine

B6

Years Old Male Irish Wolfhound

Brindle

Cardiology Appointment Report

DCM STUDY

Date: 3/5/2019

Attending Cardiologist:



B6

Cardiology Resident:



B6

Cardiology Technician:



B6

Student:

B6

Presenting Complaint: Recheck DCM study

Concurrent Diseases: Sensitive GI tract -well-controlled with Hills I/D food

General Medical History:

Last seen in November for a DCM screen when a littermate had been diagnosed with DCM on a grain-free diet. B6 had been on a grain free diet and rDVM had previously dx with low taurine. We measured taurine in November which was normal (304 reference range 200-350). B6 has been doing well at home. Since changing diet to Hill I/D has not had any diarrhea and has gained back the weight he had lost. 4 months ago treated for Anaplasmosis with an antibiotic and has not had any lameness issues. Good appetite and energy levels at home. Owner says is doing great with no issues (no c/s/v/d).

Diet and Supplements:

Hills I/D 6 cups dry per day, 1 can split BID; no people food

Taurine supplementation stopped after 2 months (had been doing 1,000 mg BID started November at last appointment)

Vitamin B injections for 3-4 months started for GI issues; stopped 4 months ago

Cardiovascular History:

Prior CHF diagnosis? No

Prior heart murmur? No

Prior ATE? No

Prior arrhythmia? No

Monitoring respiratory rate and effort at home? No, he generally pants a lot at home

Cough? No

Shortness of breath or difficulty breathing? No

Syncope or collapse? No

Sudden onset lameness? No

Exercise intolerance? None

Current Medications Pertinent to CV System:

No current medications

Heartworm preventative (stops during winter months)

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:

- | | |
|---|---|
| <input checked="" type="checkbox"/> Normal | <input type="checkbox"/> Mild ascites |
| <input type="checkbox"/> Hepatomegaly | <input type="checkbox"/> Marked ascites |
| <input type="checkbox"/> Abdominal distension | |

Problems:

History of low plasma taurine

Normal LV chamber size in November but reduced contractile function so could not rule out early DCM

Differential Diagnoses:

Dietary induced low taurine/DCM vs. congenital

Diagnostic plan:

- | | |
|--|---|
| <input checked="" type="checkbox"/> Echocardiogram | <input type="checkbox"/> Dialysis profile |
| <input type="checkbox"/> Chemistry profile | <input type="checkbox"/> Thoracic radiographs |
| <input checked="" type="checkbox"/> ECG | <input type="checkbox"/> NT-proBNP |
| <input type="checkbox"/> Renal profile | <input type="checkbox"/> Troponin I |
| <input type="checkbox"/> Blood pressure | <input type="checkbox"/> Other tests: taurine level |

Echocardiogram Findings:

General/2-D findings:

Echo performed standing; reduced quality due to panting.

LV walls are normal in thickness with adequate contractile function. LV cavity is normal in size. LA is normal to mildly dilated. RH is dilated. PA appears normal. No masses or dirofilaria visible. No pleural or pericardial effusion. No ascites.

Doppler findings:

AV Vmax 1.8 m/s

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:

NSR, HR 120 bpm

Assessment and recommendations:

Echocardiogram reveals relatively normal cardiac structure and function. The LV contractile function is slightly higher on all measurements, but this could also be daily variation. Blood work submitted via DCM study. Recheck per study protocol in 3 months.

Heart Failure Classification Score:

ACVIM Classification:

- | | |
|---------------------------------------|----------------------------|
| <input checked="" type="checkbox"/> A | <input type="checkbox"/> C |
| <input type="checkbox"/> B1 | <input type="checkbox"/> D |
| <input 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		
TAPSE		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}
Ao Diam N		{0.680 - 0.890} !
LA Diam N		{0.640 - 0.900} !

2D

SA LA	B6	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 LAX		cm
LVAd LAX		cm

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

ml
ml
cm
cm
ml
ml
BPM
%
%
ml
ml
l/min
l/min

Doppler
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
ms
m/s
m/s

m/s

m/s
m/s
m/s
mmHg
m/s
mmHg

Report Details - EON-382870

ICSR:	2064331		
Type Of Submission:	Initial		
Report Version:	FPSR.FDA.PETF.V.V1		
Type Of Report:	Both		
Reporting Type:	Voluntary		
Report Submission Date:	2019-03-20 16:23:03 EDT		
Reporter is the Animal Owner:	Yes		
Reported Problem:	Problem Description:	Have fed Acana puppy for a few weeks, Horizon Pulsar, a grain free diet, for 3.5 years, Fromm adult gold for 3 months. Veterinarian detected a heart murmur, we elected to have dog under go an echocardiogram. Cardiologist diagnosed "Given her dietary history, it's certainly possible that B6 suffers from a diet-associated dilated cardiomyopathy". She is now on 3 medications, a new grain based diet and restricted activity for 6-12 months. Hopefully this will correct the problem.	
	Date Problem Started:	03/11/2019	
	Concurrent Medical Problem:	No	
	Outcome to Date:	Stable	
Product Information:	Product Name:	Fromm Adult Gold	
	Product Type:	Pet Food	
	Lot Number:		
	UPC:	072705115204	
	Package Type:	BAG	
	Package Size:	15 kilogram	
	Number Purchased:	1	
	Possess Unopened Product:	No	
	Possess Opened Product:	No	
	Storage Conditions:	In a bag in a plastic lidded container in the kitchen pantry.	
	Product Use Information:	Description:	1 cup in the morning, 1 cup in the evening
		First Exposure Date:	11/15/2018
		Last Exposure Date:	03/01/2019
		Time Interval between Product Use and Adverse Event:	1 Weeks
		Product Use Stopped After the Onset of the Adverse Event:	Yes
		Adverse Event Abate After Product Stop:	No
		Product Use Started Again:	No
		Perceived Relatedness to Adverse Event:	Possibly related
		Other Foods or Products Given to the Animal	No

		During This Time Period:	
	Manufacturer /Distributor Information:		
	Purchase Location Information:	Name:	B6
		Address:	B6
	Product Name:	Horizon Pulsar Pulses & Chicken formula, Grain free	
	Product Type:	Pet Food	
	Lot Number:		
	UPC:	851094001646	
	Package Type:	BAG	
	Package Size:	11.4 kilogram	
	Number Purchased:	1	
	Possess Unopened Product:	No	
	Possess Opened Product:	No	
	Storage Conditions:	In a bag in a plastic lidded container in the kitchen pantry.	
	Product Use Information:	Description:	Approx. 1 cup morning and 1 cup evening
		First Exposure Date:	07/21/2015
		Last Exposure Date:	11/14/2018
		Time Interval between Product Use and Adverse Event:	3 Months
		Product Use Stopped After the Onset of the Adverse Event:	Yes
		Adverse Event Abate After Product Stop:	No
		Product Use Started Again:	No
		Perceived Relatedness to Adverse Event:	Probably related
		Other Foods or Products Given to the Animal During This Time Period:	No
	Manufacturer /Distributor Information:		
	Purchase Location Information:	Name:	B6
		Address:	B6

	Product Name: Acana Puppy and Junior		
	Product Type: Pet Food		
	Lot Number:		
	UPC: 064992500603		
	Package Type: BAG		
	Package Size: 6 kilogram		
	Purchase Date: 07/20/2015		
	Number Purchased: 1		
	Possess Unopened Product: No		
	Possess Opened Product: No		
	Storage Conditions: In a bag in a plastic lidded container in the kitchen pantry.		
	Product Use Information:	Description:	Approx. 1/3 cup 3 times daily for only a few weeks.
		First Exposure Date:	07/21/2015
		Last Exposure Date:	08/07/2015
		Time Interval between Product Use and Adverse Event:	43 Months
Product Use Stopped After the Onset of the Adverse Event:		Yes	
Adverse Event Abate After Product Stop:		No	
Product Use Started Again:		No	
Perceived Relatedness to Adverse Event:		Possibly related	
Other Foods or Products Given to the Animal During This Time Period:		No	
Manufacturer /Distributor Information:			
Purchase Location Information:	Name:	B6	
	Address:	B6	
Animal Information:	Name:	B6	
	Type Of Species:	Dog	
	Type Of Breed:	Shepherd Dog - Belgian Tervueren	
	Gender:	Female	
	Reproductive Status:	Intact	
	Pregnancy Status:	Not Pregnant	
	Lactation Status:	Not Applicable	
	Weight:	47.2 Pound	

	Age:	46 Months						
	Assessment of Prior Health:	Excellent						
	Number of Animals Given the Product:	2						
	Number of Animals Reacted:	1						
	Owner Information:							
	Healthcare Professional Information:							
Sender Information:	Name:	B6						
	Address:	B6						
	Contact:	<table border="1"> <tr> <td>Phone:</td><td>B6</td></tr> <tr> <td>Other Phone:</td><td></td></tr> <tr> <td>Email:</td><td></td></tr> </table>	Phone:	B6	Other Phone:		Email:	
Phone:	B6							
Other Phone:								
Email:								
	Permission To Contact Sender:	Yes						
	Preferred Method Of Contact:	Email						
	Reported to Other Parties:	Store/Place of Purchase Manufacturer Distributor						
Additional Documents:								

Report Details - EON-382903

ICSR:	2064342																																																																																		
Type Of Submission:	Initial																																																																																		
Report Version:	FPSR.FDA.PETF.V.V1																																																																																		
Type Of Report:	Adverse Event (a symptom, reaction or disease associated with the product)																																																																																		
Reporting Type:	Voluntary																																																																																		
Report Submission Date:	2019-03-20 20:48:01 EDT																																																																																		
Reporter is the Animal Owner:	Yes																																																																																		
Reported Problem:	<table><tr><td>Problem Description:</td><td colspan="2">Labored breathing, coughing, lack of appetite.</td></tr><tr><td>Date Problem Started:</td><td colspan="2">03/10/2019</td></tr><tr><td>Date of Recovery:</td><td colspan="2">03/19/2019</td></tr><tr><td>Concurrent Medical Problem:</td><td colspan="2">No</td></tr><tr><td>Outcome to Date:</td><td colspan="2">Stable</td></tr></table>			Problem Description:	Labored breathing, coughing, lack of appetite.		Date Problem Started:	03/10/2019		Date of Recovery:	03/19/2019		Concurrent Medical Problem:	No		Outcome to Date:	Stable																																																																		
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Outcome to Date:	Stable																																																																																		
Product Information:	<table><tr><td>Product Name:</td><td colspan="3">American Journey Grain-free Salmon & Sweet Potato Recipe</td></tr><tr><td>Product Type:</td><td colspan="3">Pet Food</td></tr><tr><td>Lot Number:</td><td>Lot Number:</td><td colspan="2">07 30 20, 19002 7833B 0301, 14:21</td></tr><tr><td>UPC:</td><td colspan="3">9226812430</td></tr><tr><td>Package Type:</td><td colspan="3">BAG</td></tr><tr><td>Package Size:</td><td colspan="3">24 Pound</td></tr><tr><td>Purchase Date:</td><td colspan="3">03/01/2019</td></tr><tr><td>Number Purchased:</td><td colspan="3">2</td></tr><tr><td>Possess Unopened Product:</td><td colspan="3">Yes</td></tr><tr><td>Possess Opened Product:</td><td colspan="3">Yes</td></tr><tr><td>Storage Conditions:</td><td colspan="3">Product was stored unopened till used then sores in a dog food sealed container</td></tr><tr><td>Product Use Information:</td><td>Description:</td><td colspan="2">Feed: B6 American Journey from when we got him in July, 8 cups a day, puppy food from July and August (3 bags 24 lbs each) August to current (16 bags- 24 lbs each).</td></tr><tr><td></td><td>First Exposure Date:</td><td colspan="2">03/02/2019</td></tr><tr><td></td><td>Last Exposure Date:</td><td colspan="2">03/20/2019</td></tr><tr><td></td><td>Time Interval between Product Use and Adverse Event:</td><td colspan="2">9 Months</td></tr><tr><td></td><td>Product Use Stopped After the Onset of the Adverse Event:</td><td colspan="2">No</td></tr><tr><td></td><td>Perceived Relatedness to Adverse Event:</td><td colspan="2">Probably related</td></tr><tr><td></td><td>Other Foods or Products Given to the Animal During This Time Period:</td><td colspan="2">No</td></tr><tr><td></td><td>Manufacturer /Distributor Information:</td><td colspan="2"></td></tr><tr><td></td><td>Purchase Location Information:</td><td>Name:</td><td>Chewy.com</td></tr></table>			Product Name:	American Journey Grain-free Salmon & Sweet Potato Recipe			Product Type:	Pet Food			Lot Number:	Lot Number:	07 30 20, 19002 7833B 0301, 14:21		UPC:	9226812430			Package Type:	BAG			Package Size:	24 Pound			Purchase Date:	03/01/2019			Number Purchased:	2			Possess Unopened Product:	Yes			Possess Opened Product:	Yes			Storage Conditions:	Product was stored unopened till used then sores in a dog food sealed container			Product Use Information:	Description:	Feed: B6 American Journey from when we got him in July, 8 cups a day, puppy food from July and August (3 bags 24 lbs each) August to current (16 bags- 24 lbs each).			First Exposure Date:	03/02/2019			Last Exposure Date:	03/20/2019			Time Interval between Product Use and Adverse Event:	9 Months			Product Use Stopped After the Onset of the Adverse Event:	No			Perceived Relatedness to Adverse Event:	Probably related			Other Foods or Products Given to the Animal During This Time Period:	No			Manufacturer /Distributor Information:				Purchase Location Information:	Name:	Chewy.com
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		Address:	<div style="border: 1px dashed black; padding: 5px; text-align: center;"> <h1 style="margin: 0;">B6</h1> </div>		
			United States		
Animal Information:	Name:	<div style="border: 1px dashed black; padding: 2px; text-align: center;"> B6 </div>			
	Type Of Species:	Dog			
	Type Of Breed:	Great Dane			
	Gender:	Male			
	Reproductive Status:	Neutered			
	Weight:	117 Pound			
	Age:	17 Months			
	Assessment of Prior Health:	Excellent			
	Number of Animals Given the Product:	1			
	Number of Animals Reacted:	1			
	Owner Information:				
	Healthcare Professional Information:	Practice Name:	<div style="border: 1px dashed black; padding: 2px; text-align: center;"> B6 </div>		
		Contact:	Name:	<div style="border: 1px dashed black; padding: 5px; text-align: center;"> <h1 style="margin: 0;">B6</h1> </div>	
			Phone:		
			Email:		
Address:		<div style="border: 1px dashed black; padding: 5px; text-align: center;"> <h1 style="margin: 0;">B6</h1> </div>			
		United States			
Type of Veterinarian:		Primary/regular veterinarian			
Date First Seen:		03/11/2019			
Permission to Release Records to FDA:		Yes			
Practice Name:		<div style="border: 1px dashed black; padding: 2px; text-align: center;"> B6 </div>			
Contact:		Name:	<div style="border: 1px dashed black; padding: 5px; text-align: center;"> <h1 style="margin: 0;">B6</h1> </div>		
		Phone:			
		Email:			
Type of Veterinarian:		Referred veterinarian			
Date First Seen:		03/18/2019			
Permission to Release Records to FDA:	Yes				
Sender Information:	Name:				
	Address:	<div style="border: 1px dashed black; padding: 5px; text-align: center;"> <h1 style="margin: 0;">B6</h1> </div>			
		United States			
	Contact:	Phone:	<div style="border: 1px dashed black; padding: 5px; text-align: center;"> <h1 style="margin: 0;">B6</h1> </div>		
	Email:				
Permission To Contact Sender:	Yes				

	Preferred Method Of Contact:	Email
	Reported to Other Parties:	None
Additional Documents:	Attachment:	12536 [B6] doc
	Description:	Ultrasound report done by Dr [B6]
	Type:	Analysis

B6**B6**

Date of Exam: 3/18/19
Invoice: 12530
Doctor:
Hospital:
Phone #:

B6

Patient's Name: **B6**
Breed: Great Dane
Sex: Male neutered
DOB/Age: 13 months
Weight: 117 lbs.

HISTORY: **B6** presented last week with increased respiratory rate, an inconsistent appetite, tachycardia, and ventricular tachycardia. Radiographically he had pulmonary infiltrates with cardiomegaly and an in-house echocardiogram was suggestive of dilated cardiomyopathy, but the owners declined an official echocardiogram at the time. The dog was sent home on Lasix, Benazepril, and Pimobendan as well as Amiodarone for the ventricular tachycardia. A plasma taurine level was run and was 81 (normal is 60-120). The owners consulted another local veterinarian who did not concur and discontinued all the cardiac medications. The dog presented today for an echocardiogram to assess for underlying disease.

EXAM: **B6** was appreciably, extremely dyspneic with pale, muddy mucous membranes during the exam. The left atrium was markedly enlarged and there was no evidence of any thrombi or smoke within the atrium. The left ventricle was enlarged in diastole and systole. The myocardium was homogenous with no focal masses or infarcts. The mitral valve was normal thickness and demonstrated normal motion. The EPSS was markedly increased at 2.48 cm indicating annular dilation. The right atrium and right ventricle were enlarged. Contractility was markedly reduced both in real time as well as by measurement of fractional shortening at 15%. The left ventricular outflow tract velocities were reduced, and the right ventricular outflow tract velocities were normal. The tricuspid valve, aortic valve and pulmonic valve were smooth and normal thickness. There was mild focal mitral regurgitation and mild tricuspid regurgitation. There was no evidence of pleural or pericardial effusion nor any masses. Infinity B waves were noted in all lung fields consistent with fulminant pulmonary edema. The EKG demonstrated a normal sinus rhythm and ventricular arrhythmias were not noted during the exam.

B6

B6

B6

Canine Echocardiographic Parameters

HR	B6	bpm	LVOT	B6	m/s	E wave	m/s
FS		%	RVOT		m/s	A wave	m/s
IVSd		cm	MR		m/s	E:A ratio	(1-1.9)
Lvd		cm	TR		m/s	IVRT	m/s
LVPWd		cm	AI		m/s	E:IVRT	m/s
LVIDs		cm	PI		m/s	AT	m/s
LVIDN 1.27 - 1.85		cm	TR grad		mmHg	ET	m/s
LA/AO		Short axis	VHS			AT:ET	
LA			LVIDdN			LVIDsN	B6

DIAGNOSIS:

1. Dilated cardiomyopathy with left atrial enlargement and evidence of congestive heart failure. This dog has been on a grain-free diet and this can be a grain-free diet associated cardiomyopathy; although, this breed of dog is also predisposed to the development of cardiomyopathy and a genetic component is also likely. The normal taurine level does not rule out a diet associated cardiomyopathy as approximately 50% of dogs with this disease have normal taurine levels.

COMMENTS:

B6

B6

B6

B6

B6

B6

B6

B6

Document properties

Title: UNPROOFED REPORT (MAY CONTAIN ERRORS)

Author:

B4, B6

Company:

Template: Building Blocks.dotx

Page count: 2

Paragraph count: 86

Line count: 186

Word count: 986

Character count (spaces excluded): 5038

Character count (spaces included): 6024

Report Details - EON-382867

ICSR:	2064327		
Type Of Submission:	Initial		
Report Version:	FPSR.FDA.PETF.V.V1		
Type Of Report:	Adverse Event (a symptom, reaction or disease associated with the product)		
Reporting Type:	Voluntary		
Report Submission Date:	2019-03-20 16:08:48 EDT		
Reported Problem:	Problem Description:	<p>She presented for lethargy, presumed by the owner to be due a recent lameness onset. During her exam, we noted that her heart rate was over 200 but her pulses were weak and occurred at 100 per minute. An immediate ECG was ordered but she collapsed before we could get her to the treatment area. We initiated CPR but she had no cardiac electrical activity on our monitor. We continued CPR for 20 minutes but she did not respond. We sent myocardium to [B6] and received the following report: Description Three sections of myocardium are examined. In these sections of myocardium, there are thin strands of fibrous connective tissue interspersed between myocardial fibers. Also interspersed between myocardial fibers are abundant accumulations of adipose tissue. Some of the entrapped myocardial fibers are atrophic while other myocardial fibers are hypertrophic. Histopathologic Diagnosis Myocardium (three specimens): Multifocal myocardial fibrosis and steatosis with multifocal fiber atrophy Comments The histologic lesions observed in the examined sections of myocardium are compatible with underlying cardiomyopathy. Presumably, arrhythmias associated with cardiomyopathy were the primary underlying cause of the clinical syndrome and death. Authorized by: [B6] DVM, PhD, DACVP Histopathology Section Head & Veterinary Pathologist</p>	
	Date Problem Started:	[B6]	
	Concurrent Medical Problem:	Yes	
	Pre Existing Conditions:	She had been on Oclacitinib in 2017 for allergy	
	Outcome to Date:	Died Naturally	
	Date of Death:	[B6]	
Product Information:	Product Name:	American Journey Salmon and Sweet Potato	
	Product Type:	Pet Food	
	Lot Number:		
	UPC:	unknown, ask owne	
	Package Type:	BAG	
	Package Size:	24 Pound	
	Purchase Date:	03/01/2019	
	Number Purchased:	1	
	Possess Unopened Product:	No	
	Possess Opened Product:	Yes	
	Storage Conditions:	unknown	
	Product Use Information:	Description:	Fed twice daily
		First Exposure Date:	03/01/2019
		Last Exposure Date:	[B6]
		Time Interval between Product Use and Adverse Event:	4 Years
		Product Use Stopped After the Onset of the	Yes

		Adverse Event:	
		Adverse Event Abate After Product Stop:	Not Applicable
		Product Use Started Again:	No
		Perceived Relatedness to Adverse Event:	Possibly related
		Other Foods or Products Given to the Animal During This Time Period:	Unknown
	Manufacturer /Distributor Information:		
	Purchase Location Information:	Name:	chewy.com
		Address:	United States
Animal Information:	Name:	B6	
	Type Of Species:	Dog	
	Type Of Breed:	Bulldog	
	Gender:	Female	
	Reproductive Status:	Neutered	
	Weight:	57 Pound	
	Age:	4.5 Years	
	Assessment of Prior Health:	Good	
	Number of Animals Given the Product:	1	
	Number of Animals Reacted:	1	
	Owner Information:	Owner Information provided:	Yes
		Contact:	Name: B6
			Phone:
		Address:	B6 United States
	Healthcare Professional Information:	Practice Name:	B6
		Contact:	Name: B6
			Phone:
			Email:
		Address:	B6 United States
Sender Information:	Name:		
	Address:	B6	

B6
United States

Contact:	Phone:	B6
	Email:	

Permission To Contact Sender:	Yes
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Preferred Method Of Contact:	Email
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Reported to Other Parties:	None
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Additional Documents:

From: PFR Event <pfpreventcreation@fda.hhs.gov>
To: Cleary, Michael *; HQ Pet Food Report Notification; [B6]
Sent: 3/20/2019 8:12:46 PM
Subject: American Journey-Salmon and Sweet Potato; [B6] EON-382867
Attachments: 2064327-report.pdf

A PFR Report has been received and PFR Event [EON-382867] has been created in the EON System.

A "PDF" report by name "2064327-report.pdf" is attached to this email notification for your reference.

Below is the summary of the report:

EON Key: EON-382867

ICSR #: 2064327

EON Title: PFR Event created for American Journey Salmon and Sweet Potato; 2064327

AE Date	[B6]	Number Fed/Exposed	1
Best By Date		Number Reacted	1
Animal Species	Dog	Outcome to Date	Died Naturally
Breed	Bulldog		
Age	4.5 Years		
District Involved	PFR-[B6] DO		

Product information

Individual Case Safety Report Number: 2064327

Product Group: Pet Food

Product Name: American Journey Salmon and Sweet Potato

Description: She presented for lethargy, presumed by the owner to be due a recent lameness onset. During her exam, we noted that her heart rate was over 200 but her pulses were weak and occurred at 100 per minute. An immediate ECG was ordered but she collapsed before we could get her to the treatment area. We initiated CPR but she had no cardiac electrical activity on our monitor. We continued CPR for 20 minutes but she did not respond. We sent myocardium to [B6] and received the following report: Description Three sections of myocardium are examined. In these sections of myocardium, there are thin strands of fibrous connective tissue interspersed between myocardial fibers. Also interspersed between myocardial fibers are abundant accumulations of adipose tissue. Some of the entrapped myocardial fibers are

atrophic while other myocardial fibers are hypertrophic. Histopathologic Diagnosis Myocardium (three specimens): Multifocal myocardial fibrosis and steatosis with multifocal fiber atrophy Comments The histologic lesions observed in the examined sections of myocardium are compatible with underlying cardiomyopathy. Presumably, arrhythmias associated with cardiomyopathy were the primary underlying cause of the clinical syndrome and death. Authorized by [B6] DVM, PhD, DACVP Histopathology Section Head & Veterinary Pathologist

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
American Journey Salmon and Sweet Potato		

Sender information

B6

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

=====

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.

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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.

Report Details - EON-382867

ICSR:	2064327		
Type Of Submission:	Initial		
Report Version:	FPSR.FDA.PETF.V.V1		
Type Of Report:	Adverse Event (a symptom, reaction or disease associated with the product)		
Reporting Type:	Voluntary		
Report Submission Date:	2019-03-20 16:08:48 EDT		
Reported Problem:	Problem Description:	<p>She presented for lethargy, presumed by the owner to be due a recent lameness onset. During her exam, we noted that her heart rate was over 200 but her pulses were weak and occurred at 100 per minute. An immediate ECG was ordered but she collapsed before we could get her to the treatment area. We initiated CPR but she had no cardiac electrical activity on our monitor. We continued CPR for 20 minutes but she did not respond. We sent myocardium to [B6] and received the following report: Description Three sections of myocardium are examined. In these sections of myocardium, there are thin strands of fibrous connective tissue interspersed between myocardial fibers. Also interspersed between myocardial fibers are abundant accumulations of adipose tissue. Some of the entrapped myocardial fibers are atrophic while other myocardial fibers are hypertrophic. Histopathologic Diagnosis Myocardium (three specimens): Multifocal myocardial fibrosis and steatosis with multifocal fiber atrophy Comments The histologic lesions observed in the examined sections of myocardium are compatible with underlying cardiomyopathy. Presumably, arrhythmias associated with cardiomyopathy were the primary underlying cause of the clinical syndrome and death. Authorized by: [B6] DVM, PhD, DACVP Histopathology Section Head & Veterinary Pathologist</p>	
	Date Problem Started:	[B6]	
	Concurrent Medical Problem:	Yes	
	Pre Existing Conditions:	She had been on Oclacitinib in 2017 for allergy	
	Outcome to Date:	Died Naturally	
	Date of Death:	[B6]	
Product Information:	Product Name:	American Journey Salmon and Sweet Potato	
	Product Type:	Pet Food	
	Lot Number:		
	UPC:	unknown, ask owne	
	Package Type:	BAG	
	Package Size:	24 Pound	
	Purchase Date:	03/01/2019	
	Number Purchased:	1	
	Possess Unopened Product:	No	
	Possess Opened Product:	Yes	
	Storage Conditions:	unknown	
	Product Use Information:	Description:	Fed twice daily
		First Exposure Date:	03/01/2019
		Last Exposure Date:	[B6]
		Time Interval between Product Use and Adverse Event:	4 Years
		Product Use Stopped After the Onset of the	Yes

		Adverse Event:	
		Adverse Event Abate After Product Stop:	Not Applicable
		Product Use Started Again:	No
		Perceived Relatedness to Adverse Event:	Possibly related
		Other Foods or Products Given to the Animal During This Time Period:	Unknown
	Manufacturer /Distributor Information:		
	Purchase Location Information:	Name:	chewy.com
		Address:	United States
Animal Information:	Name:	B6	
	Type Of Species:	Dog	
	Type Of Breed:	Bulldog	
	Gender:	Female	
	Reproductive Status:	Neutered	
	Weight:	57 Pound	
	Age:	4.5 Years	
	Assessment of Prior Health:	Good	
	Number of Animals Given the Product:	1	
	Number of Animals Reacted:	1	
	Owner Information:	Owner Information provided:	Yes
		Contact:	Name: B6
			Phone: B6
		Address:	B6
			United States
	Healthcare Professional Information:	Practice Name:	B6
		Contact:	Name: B6
			Phone: B6
			Email: B6
		Address:	B6
	Sender Information:	Name:	
		Address:	B6

	<div>B6</div> United States	
Contact:	Phone:	<div>B6</div>
	Email:	
Permission To Contact Sender:	Yes	
Preferred Method Of Contact:	Email	
Reported to Other Parties:	None	

Additional Documents:

Report Details - EON-381040

ICSR:	2063286																																																														
Type Of Submission:	Initial																																																														
Report Version:	FPSR.FDA.PETF.V.V1																																																														
Type Of Report:	Adverse Event (a symptom, reaction or disease associated with the product)																																																														
Reporting Type:	Voluntary																																																														
Report Submission Date:	2019-02-27 13:49:14 EST																																																														
Reported Problem:	<table><tr><td>Problem Description:</td><td colspan="2">DCM and CHF diagnosed 2/25/19. Eating BEG diet. 2 other dogs in household will be screened. Will change diet on B6 and reassess in 3 months. Just being discharged today. Taurine and troponin pending</td></tr><tr><td>Date Problem Started:</td><td colspan="2">02/25/2019</td></tr><tr><td>Concurrent Medical Problem:</td><td colspan="2">Yes</td></tr><tr><td>Pre Existing Conditions:</td><td colspan="2">Lick granulomas</td></tr><tr><td>Outcome to Date:</td><td colspan="2">Stable</td></tr></table>			Problem Description:	DCM and CHF diagnosed 2/25/19. Eating BEG diet. 2 other dogs in household will be screened. Will change diet on B6 and reassess in 3 months. Just being discharged today. Taurine and troponin pending		Date Problem Started:	02/25/2019		Concurrent Medical Problem:	Yes		Pre Existing Conditions:	Lick granulomas		Outcome to Date:	Stable																																														
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Purchase Location Information:																																																															
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Email:	lisa.freeman@tufts.edu																																																														

		Address:	200 Westboro Rd North Grafton Massachusetts 01536 United States
Sender Information:	Name:	Lisa Freeman	
	Address:	200 Westboro Rd North Grafton Massachusetts 01536 United States	
	Contact:	Phone:	5088874523
		Email:	lisa.freeman@tufts.edu
	Permission To Contact Sender:	Yes	
	Preferred Method Of Contact:	Email	
Additional Documents:	Attachment:	rpt_medical_record_preview.pdf	
	Description:	Medical records	
	Type:	Medical Records	

B6

Client:

B6

Address:

All Medical Records

Patient:

B6

Breed:

Doberman Pinscher

DOB:

B6

Species: Canine

Sex: Male

Home Phone:

Work Phone:

Cell Phone:

B6

Referring Information

B6

Client:

B6

Patient:

Initial Complaint:

Emergency

SOAP Text

B6

9:28PM

B6

Subjective

NEW VISIT (ER)

Doctor:

B6

Presenting complaint: Left hind leg discomfort

HISTORY:

-Left hind lameness today - no trauma noted

-Uncomfortable and unable to sleep or get up on bed or couch. Struggling to get up and down

Prior medical history: History of acral lick granulomas - have been there a while. Use e-collar to control. Have been doing a lot for them with their rDVM. No other medical history

B6

EXAM:

B6

Client: **B6**
Patient:

B6

ASSESSMENT:

A1: Fever: r/o inflammatory (impa vs ticke borne) vs infectious vs neoplasia vs stress vs other
A2: Left hind limb lameness: R/o orthopedic vs soft tissue vs IMPA vs tick borne

PLAN:

B6

Client communication:

B6

B6

SOAP approved (DVM to sign): **B6** DVM

Initial Complaint:

Emergency

SOAP Text Feb 25 2019 4:46PM -

B6

Subjective

NEW VISIT (ER)

Doctor: **B6**
Student:

Client:
Patient:

B6

Presenting complaint: Suspect CHF

Referral visit? Yes

Diagnostics completed prior to visit: 3 view CXR (in e-mail)

HISTORY:

Signalment: 3yo MI Doberman Pinscher

Current history: Presenting today for suspect CHF after visiting rDVM earlier today - according to O, 3 view CXR's showed evidence of pleural effusion. They were referred to Tufts at this time. O reports that **B6** began coughing last Thursday (2/21). The owners contacted their rDVM, who was suspicious of URI and prescribed antibiotics (O was unsure of name/dose of abx). The last dose of antibiotics was given yesterday, 2/24. This morning **B6** was having increased respiratory effort as well as difficulty getting comfortable while laying down.

Prior medical history: Suspect acral lick dermatitis/granulomas on distal limbs

Current medications: N/A

Diet: Canidae All Life Stages dry food (grain free) - has been eating this for 1.5 - 2 years.

Vaccination status/flea & tick preventative use: UTD (O brought records), HWP monthly, F/T seasonally

Travel history: N/A

EXAM:

B6

B6

ASSESSMENT:

A1: Increased respiratory rate and effort r/o: congestive heart failure (DCM vs other) vs pneumonia

A2: Tachycardic r/o: CHF vs stress

A3: Suspect acral lick dermatitis/granulomas on distal limbs

PLAN:

B6

Client: **B6**
Patient:

B6

Diagnostics completed:

B6

Diagnostics pending:

B6

SOAP approved (DVM to sign): **B6** dvm

Addendum:

Starting at 2:32am, P started having atrial fibrillation >200bpm on telemetry, consistent with auscultation and pulse deficits on physical examination. P clinically well despite cardiac rhythm. rate slowed down for a period of time until re-starting >200bpm at 3:17am where it was sustained. At 4am started 45mg regular (not ER) diltiazem PO q8. Converted to NSR at 6:30 am and discontinued further dilt tx pending cardiology assessment.

SCudney

SOAP Text Feb 26 2019 7:18AM - **B6**

History:

4 y/o IM Doberman Pinscher presented yesterday to the Tufts ER for suspect CHF after visiting rDVM-3 view CXR's showed evidence of pulmonary edema/pleural effusion. O reports that **B6** began coughing last Thursday (2/21). The owners contacted their rDVM, who was suspicious of URI and prescribed antibiotics (O was unsure of name/dose of abx). The last dose of antibiotics was given 2/24. **B6** was having increased respiratory effort as well as difficulty getting comfortable while laying down.

Overnight: P given 100mg Furosemide IV at ~4:30PM and 150mg Furosemide IV at ~5:30PM. Starting at 2:32am, P started having atrial fibrillation >200bpm on telemetry, consistent with auscultation and pulse deficits on physical examination. P clinically well despite cardiac rhythm. Rate slowed down for a period of time until re-starting >200bpm at 3:17am where it was sustained. At 4am started 45mg regular (not ER) diltiazem PO q8. Converted to NSR at 6:30 am and discontinued further dilt tx pending cardiology assessment.

Subjective:

B6

Client: **B6**
Patient:

B6

B6

Overall impression since arrival or since last exam: Stable to improve since presentation. The RR and RE improved overnight and **B6** appears more comfortable this morning. He had new onset atrial fibrillation and converted back to sinus rhythm which is quite unusual but is still in sinus rhythm this morning.

Appetite: No interest in food since arrival

Diet History: Canidae All Life Stages dry food (grain free) - has been eating this for 1.5 - 2 years.

Objective:

B6

Diagnostics:

B6

Assessments

B6

Plan

Client: **B6**
Patient:

B6

SOAP completed by **B6** V19
SOAP reviewed by:

B6

SOAP Text Feb 27 2019 7:48AM **B6**

History:

4 y/o IM Doberman Pinscher presented yesterday to the Tufts ER for suspect CHF after visiting rDVM-3 view CXR's showed evidence of pulmonary edema/pleural effusion. O reports that **B6** began coughing last Thursday (2/21). The owners contacted their rDVM, who was suspicious of URI and prescribed antibiotics (O was unsure of name/dose of abx). The last dose of antibiotics was given 2/24. **B6** was having increased respiratory effort as well as difficulty getting comfortable while laying down.

-2/25/19 (overnight) P given 100mg Furosemide IV at ~4:30PM and 150mg Furosemide IV at ~5:30PM. Starting at 2:32am, P started having atrial fibrillation >200bpm on telemetry, consistent with auscultation and pulse deficits on physical examination. P clinically well despite cardiac rhythm. Rate slowed down for a period of time until re-starting >200bpm at 3:17am where it was sustained. At 4am started 45mg regular (not ER) diltiazem PO q8. Converted to NSR at 6:30 am and discontinued further dilt tx pending cardiology assessment.

-2/26/19 (overnight): P remained stable overnight, converted to sinus rhythm ~11PM. No interest in food overnight, eager to drink water when bowl placed in front of him.

Subjective:

B6

Overall impression since arrival or since last exam: Stable to improved since presentation. The RR and RE have remained stable since removed from oxygen. No atrial fibrillation since 11PM and normal sinus rhythm this morning. Appetite: No interest in food since arrival
Diet History: Canidae All Life Stages dry food (grain free) - has been eating this for 1.5 - 2 years.

Objective:

B6

Client:
Patient:

B6

B6

Diagnostics:

B6

Assessments

B6

Plan

B6

SOAP completed by:
SOAP reviewed by:

B6

Client: B6
Patient:

Disposition/Recommendations

Client:

Patient:

B6

Client: **B6**
 Patient:

Cummings
Veterinary Medical Center
 AT TUFTS UNIVERSITY

B6

Client: **B6**
 Veterinarian:
 Patient ID: 438113
 Visit ID:

Patient: **B6**
 Species: Canine
 Breed: Doberman Pinscher
 Sex: Male
 Age: **B6** Years Old

Lab Results Report

None		1/28/2019 12:19:34 AM	Accession ID: B6
Test	Results	Reference Range	Units
Anaplasma (4dx)	B6	0 - 0	
Ehrlichia (4dx)		0 - 0	
Heartworm (4DX) - FHSA		0 - 0	
Lyme (4dx)*		0 - 0	

None		2/25/2019 4:52:25 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



10/50

B6

Printed Wednesday, February 27, 2019

Client: **B6**
Patient: **B6**

GAP	B6	0 - 0	mmol/L
CA/MG		0 - 0	mol/mol
BEecf		0 - 0	mmol/L
BEb		0 - 0	mmol/L
A		0 - 0	mmol/L
NOVA SAMPLE		0 - 0	
FiO2		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

None		2/25/2019 4:59:11 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

None		2/26/2019 9:37:18 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
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

None		2/26/2019 10:10:37 AM	Accession ID: B6
-------------	--	-----------------------	-------------------------

Client: **B6**
 Patient:

Test	Results	Reference Range	Units
TS (FHSA)	B6	0 - 0	g/dl
PCV **		0 - 0	%
TS (FHSA)		0 - 0	g/dl

None 2/27/2019 10:46:18 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
86 Result(s) verified			
POTASSIUM		3.7 - 5.4	mEq/L
NA/K		29 - 40	
T BILIRUBIN		0.1 - 0.3	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

None 2/27/2019 10:46:09 AM Accession ID: **B6**

Test	Results	Reference Range	Units
TS (FHSA)	B6	0 - 0	g/dl
PCV **		0 - 0	%
TS (FHSA)		0 - 0	g/dl

None 2/27/2019 11:17:25 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
MAGNESIUM 2+		1.8 - 3	mEq/L
T. PROTEIN		5.5 - 7.8	g/dL



12/50

B6

Printed Wednesday, February 27, 2019

Client:
Patient:

B6

ALBUMIN	B6	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
87 Result(s) verified			
POTASSIUM		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



stringsoft

13/50

B6

Printed Wednesday, February 27, 2019

Client: **B6**
 Patient:

CBC/Chem - 2/25/2019



Tufts Cummings School Of Veterinary Medicine

200 Westboro Road
 North Grafton, MA 01536

DUPLICATE

Name/DOB: B6	Sex: M	Provider: B6
Patient ID: 438113	Age: 3	Order Location: V320559: Investigation into
Phone number:	Species: Canine	Sample ID: 1902250140
Collection Date: 2/25/2019 6:09 PM	Breed: Doberman Pinscher	
Approval date: 2/25/2019 7:13 PM		

CBC, Comprehensive, Sm Animal (Research)

SMACHUNSKI		Ref. Range/Males
WBC (ADVIA)		4.40-15.10 K/uL
RBC (Advia)	L	5.80-8.50 M/uL
Hemoglobin (ADVIA)	L	13.3-20.5 g/dL
Hematocrit (Advia)	L	39-55 %
MCV (ADVIA)		64.5-77.5 fL
MCH (ADVIA)		21.3-25.9 pg
CHCM		
MCHC (ADVIA)		31.9-34.3 g/dL
RDW (ADVIA)		11.9-15.2
Platelet Count (Advia)		173-486 K/uL
02/25/19 6:51 PM		
Mean Platelet Volume (Advia)		8.29-13.20 fl
02/25/19 6:28 PM		
Platelet Crit	H	0.129-0.403 %
02/25/19 6:28 PM		
PDW		
Reticulocyte Count (Advia)	H	0.20-1.60 %
Absolute Reticulocyte Count (Advia)	H	14.7-113.7 K/uL
CHr		
MCVr		

B6

Microscopic Exam of Blood Smear (Advia)

SMACHUNSKI		Ref. Range/Males
Seg Neuts (%)		43-86 %
Lymphocytes (%)	L	7-47 %
Monocytes (%)		1-15 %
Nucleated RBC	P	0-1 /100 WBC
02/25/19 6:28 PM		
Seg Neutrophils (Abs)	P	2.800-11.500 K/uL
Advia		
Lymphs (Abs) Advia	L	1.00-4.80 K/uL
Mono (Abs) Advia		0.10-1.50 K/uL
WBC Morphology		
Polychromasia		

B6

Research Chemistry Profile - Small Animal (B6)

Sample ID: 1902250140/1
 This report continues... (Final)

Reviewed by: _____

Client: **B6**
Patient:

CBC/Chem - 2/25/2019



Tufts Cummings School Of Veterinary Medicine

200 Westboro Road
North Grafton, MA 01536

DUPLICATE

Name/DOB: B6 (5/15/2015)	Provider: B6
Patient ID: 438113	Order Location: V320539: Investigation Info
Phone number:	Sample ID: 1902250140
Collection Date: 2/25/2019 6:09 PM	Sex: M
Approval date: 2/25/2019 7:13 PM	Age: 3
	Species: Canine
	Breed: Doberman Pinscher

Research Chemistry Profile - Small Animal **B6 (cont'd)**

SMACHUNSKI		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+	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)	B6	14-28 mEq/L
AGAP		8.0-19.0
NA/K	L	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

Sample ID: 1902250140/2
REPRINT: Orig. printing on 2/25/2019 (Final)

Reviewed by: _____
Page 2

Client: **B6**
Patient:

IDEXX BNP - 2/25/2019

B6 Reference Laboratories

Client: **B6**

Client: **B6**
Patient:
Species: CANINE
Breed: DOBERMAN_PINSCH
Gender: MALE
Age: 3Y

Date: 02/25/2019
Requisition #: 1A
Accession #: **B6**
Ordered by: **B6**

B6
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

Please note: Complete interpretive comments for all concentrations of Cardiotest 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

10:00:27 PM	Heart Rate (/min)
10:00:29 PM	Temperature (F)
10:00:30 PM	Weight (kg)
4:46:45 PM	Heart Rate (/min)
4:46:46 PM	Temperature (F)
4:46:47 PM	Respiratory Rate
4:58:34 PM	Lasix treatment note
5:23:00 PM	Lasix treatment note
6:19:31 PM	FiO2 (%)
6:19:38 PM	Respiratory Rate
7:34:46 PM	Amount eaten
8:11:13 PM	FiO2 (%)
8:11:35 PM	Cardiac rhythm
8:11:36 PM	Heart Rate (/min)
8:11:47 PM	Respiratory Rate
8:36:39 PM	FiO2 (%)
8:36:47 PM	Respiratory Rate
9:31:47 PM	FiO2 (%)
9:32:00 PM	Eliminations
9:32:13 PM	Cardiac rhythm
9:32:14 PM	Heart Rate (/min)
9:32:36 PM	Respiratory Rate
9:40:39 PM	Lasix treatment note
9:40:47 PM	Catheter Assessment
10:49:51 PM	Cardiac rhythm
10:49:52 PM	Heart Rate (/min)
10:50:28 PM	Respiratory Rate
10:50:37 PM	FiO2 (%)
10:50:47 PM	Eliminations
11:37:53 PM	Cardiac rhythm
11:37:54 PM	Heart Rate (/min)
11:38:31 PM	FiO2 (%)
11:38:38 PM	Respiratory Rate
12:48:55 AM	FiO2 (%)
12:49:03 AM	Respiratory Rate
12:49:20 AM	Cardiac rhythm
12:49:21 AM	Heart Rate (/min)
1:04:45 AM	Lasix treatment note
1:04:55 AM	Catheter Assessment

B6

B6

Client: **B6**
Patient:

Vitals Results

1:21:13 AM	Eliminations
1:21:57 AM	Eliminations
1:22:08 AM	Cardiac rhythm
1:22:09 AM	Heart Rate (/min)
1:23:39 AM	FiO2 (%)
1:23:48 AM	Respiratory Rate
2:19:46 AM	Cardiac rhythm
2:19:47 AM	Heart Rate (/min)
2:21:02 AM	FiO2 (%)
2:21:09 AM	Respiratory Rate
3:27:16 AM	Respiratory Rate
3:27:34 AM	Cardiac rhythm
3:27:35 AM	Heart Rate (/min)
3:27:56 AM	FiO2 (%)
3:52:05 AM	Eliminations
4:34:17 AM	FiO2 (%)
4:34:34 AM	Cardiac rhythm
4:34:35 AM	Heart Rate (/min)
4:34:54 AM	Respiratory Rate
5:23:41 AM	Lasix treatment note
5:25:58 AM	Amount eaten
5:26:39 AM	FiO2 (%)
5:26:47 AM	Catheter Assessment
5:27:00 AM	Eliminations
5:27:30 AM	Respiratory Rate
5:28:36 AM	Cardiac rhythm
5:28:37 AM	Heart Rate (/min)
6:33:22 AM	FiO2 (%)
6:33:31 AM	Cardiac rhythm
6:33:32 AM	Heart Rate (/min)
6:33:44 AM	Respiratory Rate
6:58:26 AM	FiO2 (%)
6:58:41 AM	Respiratory Rate
7:05:37 AM	Heart Rate (/min)
7:06:38 AM	Cardiac rhythm
7:06:39 AM	Heart Rate (/min)
7:10:40 AM	Temperature (F)
9:07:00 AM	Cardiac rhythm
9:07:01 AM	Heart Rate (/min)
9:07:59 AM	Respiratory Rate
9:08:42 AM	FiO2 (%)

B6

B6

Client: **B6**
Patient:

Vitals Results

9:35:51 AM	Lasix treatment note
9:36:07 AM	Catheter Assessment
9:36:23 AM	Respiratory Rate
9:36:40 AM	FiO2 (%)
10:08:22 AM	Cardiac rhythm
10:08:23 AM	Heart Rate (/min)
10:36:31 AM	Cardiac rhythm
10:36:58 AM	Heart Rate (/min)
11:09:05 AM	Cardiac rhythm
11:09:06 AM	Heart Rate (/min)
11:09:54 AM	FiO2 (%)
11:10:13 AM	FiO2 (%)
12:19:00 PM	Cardiac rhythm
12:19:01 PM	Heart Rate (/min)
12:19:17 PM	FiO2 (%)
1:05:19 PM	Cardiac rhythm
1:05:20 PM	Heart Rate (/min)
1:05:29 PM	FiO2 (%)
1:15:27 PM	Respiratory Rate
1:41:39 PM	FiO2 (%)
1:41:52 PM	Catheter Assessment
1:42:48 PM	Respiratory Rate
1:56:11 PM	Cardiac rhythm
1:56:12 PM	Heart Rate (/min)
1:56:29 PM	Eliminations
2:47:23 PM	FiO2 (%)
2:47:35 PM	Cardiac rhythm
2:47:36 PM	Heart Rate (/min)
2:47:58 PM	Respiratory Rate
3:38:55 PM	FiO2 (%)
3:39:03 PM	Cardiac rhythm
3:39:04 PM	Heart Rate (/min)
3:40:32 PM	Respiratory Rate
4:08:34 PM	Lasix treatment note
4:56:17 PM	Cardiac rhythm
4:56:18 PM	Heart Rate (/min)
4:56:29 PM	Respiratory Rate
5:07:18 PM	Catheter Assessment

B6

Client: **B6**
Patient:

Vitals Results

5:28:28 PM	Cardiac rhythm
5:28:29 PM	Heart Rate (/min)
5:28:53 PM	Amount eaten
5:29:10 PM	Respiratory Rate
5:36:02 PM	Eliminations
7:03:18 PM	Cardiac rhythm
7:03:19 PM	Heart Rate (/min)
7:03:59 PM	Respiratory Rate
7:28:32 PM	Cardiac rhythm
7:28:33 PM	Heart Rate (/min)
7:28:47 PM	Respiratory Rate
8:40:39 PM	Cardiac rhythm
8:40:40 PM	Heart Rate (/min)
8:41:22 PM	Respiratory Rate
9:25:13 PM	Cardiac rhythm
9:25:14 PM	Heart Rate (/min)
9:25:24 PM	Catheter Assessment
9:25:35 PM	Respiratory Rate
10:54:11 PM	Cardiac rhythm
10:54:12 PM	Heart Rate (/min)
10:55:00 PM	Respiratory Rate
11:37:22 PM	Cardiac rhythm
11:37:23 PM	Heart Rate (/min)
11:37:58 PM	Respiratory Rate
11:52:29 PM	Lasix treatment note
12:36:51 AM	Cardiac rhythm
12:36:52 AM	Heart Rate (/min)
12:37:38 AM	Respiratory Rate
1:11:31 AM	Catheter Assessment
1:16:20 AM	Eliminations
1:16:29 AM	Respiratory Rate
1:35:41 AM	Cardiac rhythm
1:35:42 AM	Heart Rate (/min)
2:57:22 AM	Respiratory Rate
2:58:12 AM	Cardiac rhythm
2:58:13 AM	Heart Rate (/min)
3:52:42 AM	Cardiac rhythm
3:52:43 AM	Heart Rate (/min)
3:52:55 AM	Respiratory Rate
4:50:20 AM	Cardiac rhythm

B6

Client:
Patient:

B6

Vitals Results

4:50:21 AM	Heart Rate (/min)
4:50:35 AM	Respiratory Rate
5:48:38 AM	Catheter Assessment
5:48:57 AM	Amount eaten
5:49:04 AM	Eliminations
5:49:11 AM	Cardiac rhythm
5:49:12 AM	Heart Rate (/min)
5:49:50 AM	Respiratory Rate
6:32:36 AM	Cardiac rhythm
6:32:37 AM	Heart Rate (/min)
6:32:47 AM	Respiratory Rate
6:33:46 AM	Eliminations
7:17:14 AM	Cardiac rhythm
7:17:15 AM	Heart Rate (/min)
7:18:38 AM	Respiratory Rate
7:40:44 AM	Lasix treatment note
9:08:24 AM	Cardiac rhythm
9:08:25 AM	Heart Rate (/min)
9:08:38 AM	Eliminations
9:09:00 AM	Catheter Assessment
9:19:53 AM	Respiratory Rate
10:15:37 AM	Cardiac rhythm
10:15:38 AM	Heart Rate (/min)
10:16:40 AM	Respiratory Rate
11:06:38 AM	Cardiac rhythm
11:06:39 AM	Heart Rate (/min)
11:24:58 AM	Respiratory Rate
11:51:00 AM	Cardiac rhythm
11:51:01 AM	Heart Rate (/min)
11:51:54 AM	Respiratory Rate
12:30:30 PM	Eliminations
1:18:22 PM	Cardiac rhythm
1:18:23 PM	Heart Rate (/min)
1:18:32 PM	Respiratory Rate
1:22:54 PM	Eliminations
1:23:50 PM	Catheter Assessment

B6

B6

Client:

Patient:

B6

Telemetry ECG

B6

Client: **B6**
Patient:

Telemetry ECG

B6

Client:
Patient:

B6

Telemetry ECG

B6

Client:

Patient:

B6

Telemetry ECG

B6

Client: **B6**
Patient:

ECG from Cardio

B6

2/26/2019 10:22:22 AM

Page 1 of 2

Tufts University
Tufts Cummings School of Vet Med
Cardiology

B6

Client: **B6**
Patient:

ECG from Cardio

B6

2/26/2019 10:22:22 AM

Page 2 of 2

Tufts University
Tufts Cummings School of Vet Med
Cardiology

B6

Client:
Patient:

B6

ECG from Cardio

B6

2/26/2019 10:25:49 AM

Tufts University
Tufts Cummings School of Vet Med
Cardiology

B6

Client: **B6**
Patient:

ECG from Cardio

B6

2/26/2019 10:26:06 AM

Tufts University
Tufts Cummings School of Vet Med
Cardiology

B6

Client: **B6**
Patient:

rDVM CXR - 2/25/2019

B6

Client:

B6

Patient:

rDVM CXR - 2/25/2019

B6

Client:
Patient:

B6

Patient History

09:01 PM	UserForm
10:00 PM	Vitals
10:00 PM	Vitals
10:00 PM	Vitals
10:35 PM	UserForm
10:44 PM	Treatment
11:39 PM	Purchase
11:59 PM	Treatment
12:04 AM	Treatment
12:41 AM	Prescription
12:41 AM	Prescription
12:53 AM	Purchase
01:00 AM	Treatment
06:06 AM	UserForm
06:15 AM	Email
11:30 AM	Deleted Reason
01:39 PM	Appointment
07:47 AM	Appointment
04:46 PM	Vitals
04:46 PM	Vitals
04:46 PM	Vitals
04:46 PM	Vitals
04:49 PM	UserForm
04:51 PM	Purchase
04:56 PM	Purchase
04:56 PM	Purchase
04:56 PM	Purchase
04:58 PM	Vitals
04:58 PM	Purchase
04:59 PM	Labwork
05:11 PM	Treatment
05:19 PM	Vitals
05:19 PM	Vitals
05:23 PM	Vitals
05:23 PM	Vitals
05:23 PM	Purchase
05:47 PM	UserForm
06:01 PM	Treatment
06:13 PM	Prescription

B6

B6

Client: **B6**
Patient:

Patient History

B6	06:19 PM	Purchase	B6
	06:19 PM	Purchase	
	06:19 PM	Treatment	
	06:19 PM	Vitals	
	06:19 PM	Treatment	
	06:19 PM	Vitals	
	06:33 PM	Purchase	
	06:33 PM	Purchase	
	07:34 PM	Treatment	
	07:34 PM	Vitals	
	07:34 PM	Vitals	
	07:35 PM	Treatment	
	08:11 PM	Treatment	
	08:11 PM	Vitals	
	08:11 PM	Treatment	
	08:11 PM	Vitals	
	08:11 PM	Vitals	
	08:11 PM	Treatment	
	08:11 PM	Vitals	
	08:36 PM	Treatment	
	08:36 PM	Vitals	
	08:36 PM	Treatment	
	08:36 PM	Vitals	
	09:31 PM	Treatment	
	09:31 PM	Vitals	
	09:32 PM	Treatment	
	09:32 PM	Vitals	
	09:32 PM	Treatment	
	09:32 PM	Vitals	
	09:32 PM	Vitals	
	09:32 PM	Treatment	
	09:32 PM	Vitals	
	09:33 PM	Treatment	
	09:40 PM	Treatment	
	09:40 PM	Vitals	
	09:40 PM	Treatment	
	09:40 PM	Vitals	
	10:49 PM	Treatment	
	10:49 PM	Vitals	
	10:49 PM	Vitals	

Client: **B6**
Patient:

Patient History

B6

10:50 PM	Treatment
10:50 PM	Vitals
10:50 PM	Treatment
10:50 PM	Vitals
10:50 PM	Vitals
11:37 PM	Treatment
11:37 PM	Vitals
11:37 PM	Vitals
11:38 PM	Treatment
11:38 PM	Vitals
11:38 PM	Treatment
11:38 PM	Vitals
12:48 AM	Treatment
12:48 AM	Vitals
12:49 AM	Treatment
12:49 AM	Vitals
12:49 AM	Treatment
12:49 AM	Vitals
12:49 AM	Vitals
01:00 AM	Treatment
01:04 AM	Treatment
01:04 AM	Treatment
01:04 AM	Vitals
01:04 AM	Treatment
01:04 AM	Vitals
01:21 AM	Vitals
01:21 AM	Treatment
01:21 AM	Vitals
01:22 AM	Treatment
01:22 AM	Vitals
01:22 AM	Vitals
01:23 AM	Treatment
01:23 AM	Vitals
01:23 AM	Treatment
01:23 AM	Vitals
02:19 AM	Treatment
02:19 AM	Vitals
02:19 AM	Vitals
02:21 AM	Treatment
02:21 AM	Vitals

B6

Client: **B6**
Patient:

Patient History

02:21 AM	Treatment
02:21 AM	Vitals
03:27 AM	Treatment
03:27 AM	Vitals
03:27 AM	Treatment
03:27 AM	Vitals
03:27 AM	Vitals
03:27 AM	Treatment
03:27 AM	Vitals
03:52 AM	Vitals
03:58 AM	Prescription
04:04 AM	Treatment
04:34 AM	Treatment
04:34 AM	Vitals
04:34 AM	Treatment
04:34 AM	Vitals
04:34 AM	Vitals
04:34 AM	Treatment
04:34 AM	Vitals
05:18 AM	Treatment
05:23 AM	Treatment
05:23 AM	Vitals
05:25 AM	Treatment
05:25 AM	Vitals
05:26 AM	Treatment
05:26 AM	Vitals
05:26 AM	Treatment
05:26 AM	Vitals
05:27 AM	Treatment
05:27 AM	Vitals
05:27 AM	Treatment
05:27 AM	Vitals
05:28 AM	Treatment
05:28 AM	Vitals
05:28 AM	Vitals
06:01 AM	Purchase
06:33 AM	Treatment
06:33 AM	Vitals
06:33 AM	Treatment
06:33 AM	Vitals
06:33 AM	Vitals

B6

Client: **B6**
Patient:

Patient History

06:33 AM	Treatment
06:33 AM	Vitals
06:58 AM	Treatment
06:58 AM	Vitals
06:58 AM	Treatment
06:58 AM	Vitals
07:05 AM	Vitals
07:06 AM	Treatment
07:06 AM	Vitals
07:06 AM	Vitals
07:10 AM	Vitals
07:13 AM	Treatment
08:26 AM	UserForm
09:07 AM	Treatment
09:07 AM	Vitals
09:07 AM	Vitals
09:07 AM	Treatment
09:07 AM	Vitals
09:08 AM	Treatment
09:08 AM	Vitals
09:08 AM	Treatment
09:35 AM	Treatment
09:35 AM	Vitals
09:36 AM	Treatment
09:36 AM	Vitals
09:36 AM	Treatment
09:36 AM	Vitals
09:36 AM	Treatment
09:36 AM	Vitals
09:37 AM	Purchase
10:05 AM	Treatment
10:08 AM	Treatment
10:08 AM	Vitals
10:08 AM	Vitals
10:14 AM	Labwork
10:27 AM	Purchase
10:36 AM	Vitals
10:36 AM	Vitals

B6

Client: **B6**
Patient: **B6**

Patient History

B6	11:01 AM	Prescription	B6
	11:09 AM	Treatment	
	11:09 AM	Vitals	
	11:09 AM	Vitals	
	11:09 AM	Treatment	
	11:09 AM	Vitals	
	11:10 AM	Treatment	
	11:10 AM	Vitals	
	11:31 AM	Purchase	
	11:31 AM	Purchase	
	11:35 AM	Treatment	
	12:19 PM	Treatment	
	12:19 PM	Vitals	
	12:19 PM	Vitals	
	12:19 PM	Treatment	
	12:19 PM	Vitals	
	01:05 PM	Treatment	
	01:05 PM	Vitals	
	01:05 PM	Vitals	
	01:05 PM	Treatment	
	01:05 PM	Vitals	
	01:15 PM	Vitals	
	01:41 PM	Treatment	
	01:41 PM	Vitals	
	01:41 PM	Treatment	
	01:41 PM	Treatment	
	01:41 PM	Vitals	
	01:42 PM	Treatment	
	01:42 PM	Vitals	
	01:56 PM	Treatment	
	01:56 PM	Vitals	
	01:56 PM	Vitals	
	01:56 PM	Treatment	
	01:56 PM	Vitals	
	02:47 PM	Treatment	
	02:47 PM	Vitals	
	02:47 PM	Treatment	
	02:47 PM	Vitals	
	02:47 PM	Vitals	

Client:
Patient:

B6

Patient History

02:47 PM	Treatment
02:47 PM	Vitals
03:38 PM	Treatment
03:38 PM	Vitals
03:39 PM	Treatment
03:39 PM	Vitals
03:39 PM	Vitals
03:40 PM	Treatment
03:40 PM	Vitals
04:08 PM	Treatment
04:08 PM	Vitals
04:56 PM	Treatment
04:56 PM	Vitals
04:56 PM	Vitals
04:56 PM	Treatment
04:56 PM	Vitals
05:07 PM	Treatment
05:07 PM	Vitals
05:07 PM	Treatment
05:28 PM	Treatment
05:28 PM	Treatment
05:28 PM	Treatment
05:28 PM	Vitals
05:28 PM	Vitals
05:28 PM	Treatment
05:28 PM	Vitals
05:29 PM	Treatment
05:29 PM	Vitals
05:36 PM	Treatment
05:36 PM	Vitals
06:03 PM	Purchase
06:03 PM	Purchase
06:39 PM	Prescription
07:03 PM	Treatment
07:03 PM	Vitals
07:03 PM	Vitals
07:03 PM	Treatment
07:03 PM	Vitals
07:28 PM	Treatment

B6

B6

Client:
Patient:

B6

Patient History

07:28 PM	Vitals
07:28 PM	Vitals
07:28 PM	Treatment
07:28 PM	Vitals
07:50 PM	Treatment
08:40 PM	Treatment
08:40 PM	Vitals
08:40 PM	Vitals
08:41 PM	Treatment
08:41 PM	Vitals
09:25 PM	Treatment
09:25 PM	Vitals
09:25 PM	Vitals
09:25 PM	Treatment
09:25 PM	Vitals
09:25 PM	Treatment
09:25 PM	Treatment
09:25 PM	Vitals
09:28 PM	Treatment
10:54 PM	Treatment
10:54 PM	Vitals
10:54 PM	Vitals
10:55 PM	Treatment
10:55 PM	Vitals
11:37 PM	Treatment
11:37 PM	Vitals
11:37 PM	Vitals
11:37 PM	Treatment
11:37 PM	Vitals
11:52 PM	Treatment
11:52 PM	Vitals
12:36 AM	Treatment
12:36 AM	Vitals
12:36 AM	Vitals
12:37 AM	Treatment
12:37 AM	Vitals
01:11 AM	Treatment
01:11 AM	Vitals
01:11 AM	Treatment
01:16 AM	Treatment
01:16 AM	Treatment

B6

B6

Client: **B6**
Patient:

Patient History

01:16 AM	Vitals
01:16 AM	Treatment
01:16 AM	Vitals
01:35 AM	Treatment
01:35 AM	Vitals
01:35 AM	Vitals
02:57 AM	Treatment
02:57 AM	Vitals
02:58 AM	Treatment
02:58 AM	Vitals
02:58 AM	Vitals
03:52 AM	Treatment
03:52 AM	Vitals
03:52 AM	Vitals
03:52 AM	Treatment
03:52 AM	Vitals
04:50 AM	Treatment
04:50 AM	Vitals
04:50 AM	Vitals
04:50 AM	Treatment
04:50 AM	Vitals
05:48 AM	Treatment
05:48 AM	Treatment
05:48 AM	Treatment
05:48 AM	Vitals
05:48 AM	Treatment
05:48 AM	Vitals
05:49 AM	Treatment
05:49 AM	Vitals
05:49 AM	Treatment
05:49 AM	Vitals
05:49 AM	Vitals
05:49 AM	Treatment
05:49 AM	Vitals
06:01 AM	Purchase
06:32 AM	Treatment
06:32 AM	Vitals
06:32 AM	Vitals
06:32 AM	Treatment
06:32 AM	Vitals
06:33 AM	Vitals
07:17 AM	Treatment

B6

B6

Client:
Patient:

B6

Patient History

07:17 AM	Vitals
07:17 AM	Vitals
07:18 AM	Treatment
07:18 AM	Vitals
07:40 AM	Treatment
07:40 AM	Treatment
07:40 AM	Vitals
07:41 AM	Treatment
09:08 AM	Treatment
09:08 AM	Vitals
09:08 AM	Vitals
09:08 AM	Treatment
09:08 AM	Vitals
09:09 AM	Treatment
09:09 AM	Vitals
09:19 AM	Treatment
09:19 AM	Vitals
09:49 AM	Purchase
10:12 AM	UserForm
10:15 AM	Treatment
10:15 AM	Vitals
10:15 AM	Vitals
10:16 AM	Treatment
10:16 AM	Vitals
10:26 AM	Purchase
10:26 AM	Treatment
10:46 AM	Purchase
10:46 AM	Labwork
10:51 AM	Treatment
11:06 AM	Treatment
11:06 AM	Vitals
11:06 AM	Vitals
11:17 AM	Purchase
11:17 AM	Treatment
11:24 AM	Treatment
11:24 AM	Vitals
11:51 AM	Treatment
11:51 AM	Vitals
11:51 AM	Vitals
11:51 AM	Treatment

B6

B6

Client: **B6**
Patient:

Patient History

B6	11:51 AM	Vitals
	12:30 PM	Vitals
	01:18 PM	Treatment
	01:18 PM	Vitals
	01:18 PM	Vitals
	01:18 PM	Treatment
	01:18 PM	Vitals
	01:22 PM	Treatment
	01:22 PM	Vitals
	01:23 PM	Treatment
	01:23 PM	Treatment
	01:23 PM	Vitals
B6		

Appears this way on Original

Appears this way on Original

Cummings
Veterinary Medical Center
AT TUFTS UNIVERSITY

B6

B6

B6

B6

Male

Canine Doberman Pinscher Black
438113

B6

Dear Dr.

B6

B6 was seen at Tufts' ER for left hind lameness. Please see attached discharge instructions for more information.

If you have any questions, or concerns, please contact us at 508-887-4988.

Thank you,

B6

B6

Notice of Patient Admit

Date: B6 1:21:36 PM

Case No: 438113

Referring Doctor: B6

Client Name:

Patient Name: B6

Dear Dr. B6

Your patient presented to our Emergency service. Please make note of the following information to facilitate communication with our team.

The attending doctor is: Dr. B6

The reason for admission to the ER is: DCM, CHF

If you have any questions regarding this particular case, please call 508-887-4988 to reach the Cardiology Service. Information is updated daily, by noon.

Thank you for your referral to our Emergency Service.

Cummings
Veterinary Medical Center
AT TUFTS UNIVERSITY

B6

B6

B6

Male

Canine Doberman Pinscher Black
438113

Daily Update From the Cardiology Service

Today's date: **B6**

Dear Drs at **B6**

Thank you for referring patients to the
University.

B6

Your patient **B6** was admitted and is being cared for by the Cardiology Service.

Today, **B6**

- ☒ is in stable condition
- ☒ is still in the oxygen cage
- ☐ is critically ill
- ☐ might be discharged from the hospital today

Today's treatments include:

- ☒ bloodwork planned/pending
- ☒ echocardiography -
 - DCM with active CHF r/o breed-related vs. diet related.
- ☐ cardiac catheter procedure planned
- ☐ ongoing treatment for CHF
- ☐ ongoing treatment for thrombosis
- ☐ ongoing treatment for arrhythmia

Additional plans:

Please allow 3-5 business days for reports to be finalized upon patient discharge.

Please call (508) 887-4696 before 5pm or email us at cardiovet@tufts.edu if you have any questions.
Thank you!

Attending Clinician: Dr. **B6**, DVM (Resident, Cardiology)

Faculty Clinician: **B6**, DVM, DACVIM

Senior student:

Vet-LIRN Case Summary Document

Vet-LIRN Case Number:	800.267
EON/CC #:	EON-345858
Owner LAST Name:	
Vet LAST Name:	Multiple
Vet-LIRN Initiation Date:	4/13/2018
MedRec: Requested:	
MedRec: Received:	
MedRec: Significant finding:	
Vet-LIRN Tests (planned):	
Vet-LIRN Test Results:	Covance <ul style="list-style-type: none">Control/non-GF Cys, Met, Tau
Result Interpretation:	
IF NFA, justification:	

COMPLAINT Narrative: Dave and I proactively held a call with communications about the potential for grain free diets to cause DCM. [REDACTED] B5

B5

B5

4/20/2018

JJ-We held a call with many cardiologists and nutritionists today. I sent a follow-up to the group with a

B5

B5

Vet-LIRN Plan:

-
-
-

B5

B5

4/24/2018

JJ-I reviewed the list sent by Tufts and compiled it with the PFRs we've received for DCM

B5

B4

B5

I looked up the ingredients for each product listed and looked for common product commonalities.

BLUF: The most common ingredients were:

- Flaxseed/Flaxseed oil
- Peas/Pea fiber/Pea flour

On the phone call, one of the cardiologists mentioned

B5

B5

Hypotheses if a pet food issue:

B5

B5

4/20/2018

JJ-Lisa Freeman (Tufts) sent a draft dietary history form. I made a few comments and sent back to the group.

B5

B5

5/1/2018

JJ-I did some research on

B5

B5

B5

B5 Thoughts?

Dave previously sent an email about

B5

B5

B5

5/4/2018

B5

I prepared the samples (list below), made the lab submission forms, and packed the box. SN will make a shipping label.

Samples sent to Covance for Tau/Met/Cys:

<u>Case ID</u>	<u>Product Name</u>	<u>Type</u>	<u>Grains</u>	<u>Clinically</u>	<u>Ingredients in common w/ Top GF ingredients (>14 in our data set)</u>
800.216-sub 2	<div>B4</div>				
800.215-sub 5					
800.210-sub 1					
800.194-sub 1					
800.240-sub 1					
800.240-sub 2					
800.240-sub 3					
800.240-sub 4					
800.250-sub 1					

5/9/2018

JJ-Martine spoke with a

B5

B5

5/10/2018

JJ-LAP had some [REDACTED] **B5**

B5

Info from LAP:

If you look at the cases we've received (well – either in the list from Tufts or NC State or reported to CVM not to Tufts/NC) in which the Grain-free status of the primary brand fed (or reported) can be determined, 39 of 41 had exposure to Grain-free foods, including the cats [REDACTED] **B5**

B5

B5

LAP believes there is a [REDACTED] **B5**

5/17/2018

JJ-We received the results of the Covance control food testing. I updated the xls and made a report for the group.

BLUF-I suspect [REDACTED] **B5**
• [REDACTED] **B5**
• [REDACTED] **B5**

5/18/2018

JJ- LAP filed her initial analysis-

B5

B5

B5

B5

MH mentioned: B5

6/13/2018

JJ-OSC plans to B5

B4, B5

We had a call with PFI and discussed the findings from our product testing (without brand names) B5

B5

B5

B5

Source	Case	Typical Breed?	Diagnosis	wb taurine	plasma taurine
Tufts	B6	Atypical	DCM/CHF	/	/
Tufts		Atypical	DCM/CHF	WNL	WNL
Tufts		Atypical	DCM/CHF	/	/
Tufts		Atypical	DCM/CHF, RA mass	/	/
Tufts		Atypical	DCM/CHF	/	/
Tufts		Atypical	DCM/CHF	/	/
Tufts		Atypical	DCM/CHF	WNL	WNL
Tufts		Atypical	DCM	WNL	WNL
Tufts		Atypical	DCM/CHF	WNL	WNL
Tufts		Atypical	Murmur but no echo (in for GI issues)	/	/
Tufts		Atypical	DCM/CHF	WNL	WNL
Tufts		Atypical	DCM +/- CHF, V tach	/	/
Tufts		Atypical	DCM	/	/
Tufts		Atypical	DCM/CHF	/	/
Tufts		Atypical	DCM/CHF	/	/
Tufts		Atypical	DCM	WNL	WNL
Tufts		Atypical	DCM/CHF	200	40
Tufts		Atypical	DCM/CHF	/	/
Tufts		Atypical	DCM	229	105
NCSU	EON-323515	Atypical	DCM/CHF	adequate-no value(s)	
NCSU	EON-323519	Atypical	DCM/CHF, MV endocardiosis	normal-no value(s)	
B6	EON-345822	Atypical	DCM/CHF, some V-tach	292	/
	EON-345831	Atypical	DCM/CHF, Endocardiosis, A-Fib	236	/
	EON-345833	Atypical	DCM, Endocardiosis	/	/
	EON-345835	Typical	DCM/CHF, low Alb	10	/
	EON-345965	Atypical	DCM, partial retinal detachment	276	/
CVCA	EON-350158	Atypical	DCM/CHF (early CHF)	168	/
CVCA	EON-350263	Typical	DCM/CHF, endocardiosis	/	/
CVCA	EON-350359	Typical	DCM	/	/
B6	EON-351031	Atypical	DCM/CHF	119	/
	EON-351034	Atypical	DCM/CHF	57	/
Tufts	B6	Typical	DCM	39	/
Tufts		Typical	DCM	47	/

supplemented	improved	dob	breed	visit date	sex	age
yes	no	B6	PORTUGUESE WATER DOG	B6	SF	7.2
no			LABRADOR CROSS		CM	11.0
no (died)			SAMOYED		CM	7.2
no			GOLDEN RETRIEVER		CM	10.1
yes	pending		LABRADOR RETRIEVER		CM	8.3
no			GERMAN SHEPHERD		CM	5.0
no			BEAGLE CROSS		CM	3.0
no			GERMAN SHORTHAIR POINTER		M	2.7
no			AUSTRALIAN CATTLE DOG		SF	5.8
no			MIX		CM	5.0
yes	no		LAB		SF	2.5
no			PIT BULL		CM	6.8
no			PHAROAH HOUND		F	0.7
yes	yes		PIT BULL		CM	10.6
no (died)			FRENCH BULLDOG		CM	9.5
no			FRENCH BULLDOG		SF	5.1
yes	no		GOLDEN RETRIEVER		CM	11.0
no			GOLDEN RETRIEVER		SF	11.0
yes	pending		GOLDEN RETRIEVER		SF	9.7
yes	died		Miniature Schnauzer		CM	2.5
no	CHF resolved		Miniature Schnauzer		CM	7
unknown	unknown		LABRADOR RETRIEVER		SF	6
no	stable-slighty		LABRADOR RETRIEVER		F	8
no	died		LABRADOR RETRIEVER		SF	5
yes			American Cocker Spaniel		CM	4
yes			Shih Tzu		CM	8
yes	yes		LABRADOR RETRIEVER		SF	13
yes	pending		Bull Terrier		M	8
yes	pending		American Cocker Spaniel		SF	13
yes	pending		GOLDEN RETRIEVER		CM	6
yes	pending		GOLDEN RETRIEVER		SF	11
yes	pending		DOBERMAN PINSCHER		CM	7.3
yes	yes		BOXER		CM	1.7

		800.218-sub 1	800.218-sub 2	800.218-sub 6
		Case Sample	Store-bought	Case sample
		California Naturals Kangaroo & Lentil	California Naturals Kangaroo & Lentil	California Naturals Kangaroo & Lentil
B4	Ca	1.30%	1%	0.93%
	Mg	0.13%	0.14%	0.15%
	P	0.74%	0.67%	0.68%
	Fe	30 mg/kg	30 mg/kg	31 mg/kg
	Co	0.12 mg/kg	0.14 mg/kg	.14 mg/kg
	Cu	21 mg/kg	19 mg/kg	16 mg/kg
	Zn	240 mg/kg	280 mg/kg	200 mg/kg
	Se	0.7 mg/kg	0.65 mg/kg	.68 mg/kg
	Ca:P	1.76:1	1.49:1	1.37:1
	Cu:Zn	0.09:1	0.07:1	0.08:1
B4	Tau	~0.26%	1.06 mg/g = ~0.11%	1.22 mg/g = ~0.12%
	Cystine	2.32 mg/g = ~0.23%	2.31 mg/g = ~0.23%	2.5 mg/g = ~0.25%
	Met	5.78 mg/g = ~0.58%	5.53 mg/g = ~0.55%	7.78 mg/g = ~0.78%
	Met-Cys	~0.81%	~0.78%	~1.03%
	Cys:Met	0.4 : 1	0.42 : 1	0.29 : 1
	Met: Met+Cys	0.72 : 1	0.71 : 1	0.76 : 1
	Met: Cys	2.52 : 1	2.39 : 1	3.12 : 1
MSU	Iodine	not tested	4.04 ug/g (ppm)	1.87 ug/g (ppm)

800.218-sub 5	800.218-sub 4	800.261	
Case Sample	Case Sample	Store-bought	
California Naturals Chicken Meal	Fromm Heartland Gold Grain Free Large Breed Adult	Zignature Essentials Kangaroo	AAFCO-Adult Maint
1.80%	1.20%		0.5 to 2.5%
0.14%	0.14%		0.06%
1.30%	1%		0.4 to 1.6 %
39 mg/kg	30 mg/kg		40 mg/kg
0.14 mg/kg	0.37 mg/kg		25 mg/kg-chicks/rats/sheep max
19 mg/kg	25 mg/kg		7.3 mg/kg
330 mg/kg	170 mg/kg		80 mg/kg
0.66 mg/kg	0.85 mg/kg		0.35 to 2 mg/kg
1.38:1	1.2:1		1:1 to 2:1
0.06:1	0.15:1		0.09:1-not AAFCO
1.08 mg/g = ~0.11%	1.84 mg/g = ~0.18%	pending	0.1% in Cats
3.2 mg/g = ~0.32%	3.15 mg/g = ~0.32%	pending	n/a
6.2 mg/g = ~0.62%	4.75 mg/g = ~0.48%	pending	0.33%
~0.94%	~0.79%	pending	0.65%
0.52 : 1	0.66 : 1	pending	
0.66 : 1	0.61 : 1	pending	
1.94 : 1	1.5 : 1	pending	
3.19 ug/g (ppm)	1.58 ug/g (ppm)	4.2 ug/g (ppm)	1 ppm (min) to 11 ppm (max)

From: Jones, Jennifer L </o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0f6ca12eaa9348959a4cbb1e829af244-Jennifer.Jo>
To: Rotstein, David; Hartogensis, Martine; Palmer, Lee Anne; Carey, Lauren
Sent: 6/4/2018 5:00:52 PM
Subject: RE: checking in-FW: DRAFT- email to the Divisions about Dilated Cardiomyopathy

I received results from Covance, and I need to update this powerpoint.

B5

B5

Please stay tuned.

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



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
B5 (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:

B5

Thank you,

Dave

Brand	flavor	Firm	Location	FEI	Division
B4, B5					

B4, B5

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

B4

 (BB)



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From: Hartogensis, Martine </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=02DF91D554D34B948FC58433D0E42073-MHARTOGE>
To: Jones, Jennifer L; Palmer, Lee Anne; Carey, Lauren; Rotstein, David
Sent: 6/13/2018 1:44:20 AM
Subject: RE: Thanks again for the call today re grain-free diets

Oh, interesting. That is hopeful and sounds like early intervention is a very good thing.

Martine

From: Jones, Jennifer L
Sent: Tuesday, June 12, 2018 3:12 PM
To: Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>
Subject: RE: Thanks again for the call today re grain-free diets

I reviewed my notes from the call we had with NCSU, Tufts, Davis, etc. The shortest interval the experts saw between consuming the food and developing DCM was ~9 months. One dog had been fed a Kangaroo & Lentil diet for years.

B5

B5

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



From: Hartogensis, Martine
Sent: Tuesday, June 12, 2018 12:03 PM
To: Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>
Subject: RE: Thanks again for the call today re grain-free diets

Ok, thank you Lee Anne!

Martine

From: Palmer, Lee Anne
Sent: Tuesday, June 12, 2018 11:30 AM
To: Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>
Subject: RE: Thanks again for the call today re grain-free diets

B5

B5

From: Hartogensis, Martine

Sent: Tuesday, June 12, 2018 10:55 AM

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

Subject: FW: Thanks again for the call today re grain-free diets

Good morning...

B5

Martine

From: Tabor, Peter [<mailto:peter@petfoodinstitute.org>]

Sent: Tuesday, June 12, 2018 10:49 AM

To: Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>

Subject: RE: Thanks again for the call today re grain-free diets

Great – many thanks, Martine. On a somewhat related note, is FDA monitoring or seeing any similar issue with vegan pet food diets?

Regards,

Peter

O: +1.202.791.9432

M: B6

From: Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>

Sent: Tuesday, June 12, 2018 7:57 AM

To: Tabor, Peter <peter@petfoodinstitute.org>

Subject: RE: Thanks again for the call today re grain-free diets

Thank you and good morning. Here are the slides from Dr. Jones' presentation yesterday. Please let us know if you have any questions.

Martine

Martine Hartogensis, DVM

FDA Center for Veterinary Medicine

Deputy Director, Office of Surveillance & Compliance

(240) 402-7178

From: Tabor, Peter [<mailto:peter@petfoodinstitute.org>]
Sent: Monday, June 11, 2018 9:27 PM
To: Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>
Subject: Re: Thanks again for the call today re grain-free diets

Great - many thanks and have a good night, Martine.

Sent using OWA for iPhone

From: Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>
Sent: Monday, June 11, 2018 9:09:16 PM
To: Tabor, Peter
Subject: RE: Thanks again for the call today re grain-free diets

Hi Peter,

Thank you so much for the call today. We really appreciate your willingness to work with us and collaborate on this very interesting issue. I promise to send the slides asap...just need to resolve one minor issue and they are yours!

I apologize for the delay and will get back to you first thing tomorrow.

Thanks again!

Martine

Martine Hartogensis, DVM
FDA Center for Veterinary Medicine
Deputy Director, Office of Surveillance & Compliance
(240) 402-7178

From: Tabor, Peter [<mailto:peter@petfoodinstitute.org>]
Sent: Monday, June 11, 2018 2:43 PM
To: Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>
Subject: Thanks again for the call today re grain-free diets

Thanks, Dr Hartogensis, for pulling your colleagues together this morning to share information on FDA and veterinarian findings re grain-free diets and DCM. There was mention, by Jennifer, I think, of slides that could be shared with PFI. We'd like to include those slides in our message to members, if you agree doing so would be appropriate. If so, please send those slides over ASAP. We'd like to include them in our message to members in the next day or so.

Thanks and we'll be in touch.

Regards,

Peter Tabor
Vice President, Regulatory & International Affairs
Pet Food Institute
O: +1.202.791.9432
M: B6
E: peter@petfoodinstitute.org

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From: Carey, Lauren </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=F0226BD682844FA2B71EA3750D4FCB82-LAUREN.CARE>
To: Jones, Jennifer L; Hartogensis, Martine; Rotstein, David; Palmer, Lee Anne; Norris, Anne
Sent: 6/13/2018 12:12:00 PM
Subject: RE: Thanks again for the call today re grain-free diets

The pet food section on page 5 is very interesting. I wonder

B5

B5

From: Jones, Jennifer L
Sent: Wednesday, June 13, 2018 8:05 AM
To: Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>
Subject: RE: Thanks again for the call today re grain-free diets

Also, here's a good article on pulses in China from our Canadian colleagues. <http://www.agr.gc.ca/resources/prod/Internet-Internet/MISB-DGSIM/ATS-SEA/PDF/6718-eng.pdf>

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



From: Hartogensis, Martine
Sent: Wednesday, June 13, 2018 7:54 AM
To: Rotstein, David <David.Rotstein@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>
Subject: RE: Thanks again for the call today re grain-free diets

Good point. Anne, do you have a contact?

B5

Martine

From: Rotstein, David
Sent: Wednesday, June 13, 2018 7:47 AM
To: Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>
Subject: RE: Thanks again for the call today re grain-free diets

I don't

B5

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: Hartogensis, Martine
Sent: Wednesday, June 13, 2018 7:40 AM
To: Rotstein, David <David.Rotstein@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>
Subject: RE: Thanks again for the call today re grain-free diets

Ok, thank you! B5

From: Rotstein, David
Sent: Wednesday, June 13, 2018 7:36 AM
To: Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>
Subject: RE: Thanks again for the call today re grain-free diets

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: Hartogensis, Martine

Sent: Wednesday, June 13, 2018 7:34 AM

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

Subject: RE: Thanks again for the call today re grain-free diets

Hi Dave,

Not a bad idea.

B5

B5

Martine

From: Rotstein, David

Sent: Wednesday, June 13, 2018 7:28 AM

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

Subject: RE: Thanks again for the call today re grain-free diets

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

Sent: Wednesday, June 13, 2018 6:59 AM

To: Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>; Norris, Anne <Anne.Norris@fda.hhs.gov>

Subject: RE: Thanks again for the call today re grain-free diets

From one of our contacts reporting Grain Free DCM cases.

Jennifer Jones, DVM
Veterinary Medical Officer

Tel: 240-402-5421



From: Hartogensis, Martine

Sent: Tuesday, June 12, 2018 9:53 PM

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

Subject: RE: Thanks again for the call today re grain-free diets

B5

From: Carey, Lauren

Sent: Tuesday, June 12, 2018 7:32 PM

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

Subject: RE: Thanks again for the call today re grain-free diets

That's an excellent idea. That seems like the sort of thing PFI would track/report on?

From: Jones, Jennifer L

Sent: Tuesday, June 12, 2018 3:12 PM

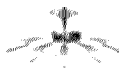
To: Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>; Palmer, Lee Anne <LeeAnne.Palmer@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>

Subject: RE: Thanks again for the call today re grain-free diets

B5

B5

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



From: Hartogensis, Martine

Sent: Tuesday, June 12, 2018 12:03 PM

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

Subject: RE: Thanks again for the call today re grain-free diets

Ok, thank you Lee Anne!

Martine

From: Palmer, Lee Anne

Sent: Tuesday, June 12, 2018 11:30 AM

To: Hartogenesis, Martine <Martine.Hartogenesis@fda.hhs.gov>; Carey, Lauren <Lauren.Carey@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>

Subject: RE: Thanks again for the call today re grain-free diets

B5

B5

From: Hartogenesis, Martine

Sent: Tuesday, June 12, 2018 10:55 AM

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

Subject: FW: Thanks again for the call today re grain-free diets

Good morning.. **B5**

Martine

From: Tabor, Peter [<mailto:peter@petfoodinstitute.org>]

Sent: Tuesday, June 12, 2018 10:49 AM

To: Hartogenesis, Martine <Martine.Hartogenesis@fda.hhs.gov>

Subject: RE: Thanks again for the call today re grain-free diets

Great – many thanks, Martine. On a somewhat related note, is FDA monitoring or seeing any similar issue with vegan pet food diets?

Regards,

Peter

O: +1.202.791.9432

M: **B6**

From: Hartogenesis, Martine <Martine.Hartogenesis@fda.hhs.gov>

Sent: Tuesday, June 12, 2018 7:57 AM

To: Tabor, Peter <peter@petfoodinstitute.org>

Subject: RE: Thanks again for the call today re grain-free diets

Thank you and good morning. Here are the slides from Dr. Jones' presentation yesterday. Please let us know if you have any questions.

Martine

Martine Hartogensis, DVM
FDA Center for Veterinary Medicine
Deputy Director, Office of Surveillance & Compliance
(240) 402-7178

From: Tabor, Peter [<mailto:peter@petfoodinstitute.org>]
Sent: Monday, June 11, 2018 9:27 PM
To: Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>
Subject: Re: Thanks again for the call today re grain-free diets

Great - many thanks and have a good night, Martine.

Sent using OWA for iPhone

From: Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>
Sent: Monday, June 11, 2018 9:09:16 PM
To: Tabor, Peter
Subject: RE: Thanks again for the call today re grain-free diets

Hi Peter,

Thank you so much for the call today. We really appreciate your willingness to work with us and collaborate on this very interesting issue. I promise to send the slides asap...just need to resolve one minor issue and they are yours!

I apologize for the delay and will get back to you first thing tomorrow.

Thanks again!

Martine

Martine Hartogensis, DVM
FDA Center for Veterinary Medicine
Deputy Director, Office of Surveillance & Compliance
(240) 402-7178

From: Tabor, Peter [<mailto:peter@petfoodinstitute.org>]
Sent: Monday, June 11, 2018 2:43 PM
To: Hartogensis, Martine <Martine.Hartogensis@fda.hhs.gov>
Subject: Thanks again for the call today re grain-free diets

Thanks, Dr Hartogensis, for pulling your colleagues together this morning to share information on FDA and veterinarian findings re grain-free diets and DCM. There was mention, by Jennifer, I think, of slides that could be shared with PFI. We'd like to include those slides in our message to members, if you agree doing so would be appropriate. If so, please send those slides over ASAP. We'd like to include them in our message to members in the next day or so.

Thanks and we'll be in touch.

Regards,

Peter Tabor
Vice President, Regulatory & International Affairs
Pet Food Institute
O: +1.202.791.9432
M: B6
E: peter@petfoodinstitute.org

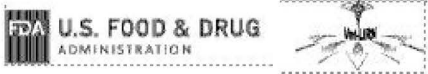
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From: Jones, Jennifer L </o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0f6ca12eaa9348959a4cbb1e829af244-Jennifer.Jo>
To: Rotstein, David; Palmer, Lee Anne
Sent: 4/30/2018 11:23:59 AM
Subject: RE: DCM cases - proposed diet history
Attachments: diet history form 4-27-18 external-jj.doc

I made a few comments and will send back to the group.

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



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

[B5]

B5

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

[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**

[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**

[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 <jstern@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

Diet, the Gut Microbiome and Heart Failure

Sivadasanpillai Harikrishnan

Sree Chitra Tirunal Institute for Medical Sciences and Technology, Trivandrum, Kerala, India

Abstract

The collection of microorganisms that live in coexistence within or on the host body has been referred to as the microbiota. In humans, such cohabitation is mostly seen in the gut, mainly in the colon. The gut microbiome is acquired from the environment and is modified mostly by the diet. There are preliminary data to show that gut microbia can directly influence the pathogenetic disease processes in heart failure (HF). HF leads to bowel wall oedema and regional hypoxia, causing a change in the microbial flora of the gut, which can initiate or perpetuate certain pathogenetic process in HF. The structural component of the microbiota itself, such as lipopolysaccharides or the substances produced by the bacteria, such as trimethylamine N-oxide, is implicated in the pathogenesis of HF. This process is termed as the 'heart-gut axis' in HF. Manipulating the gut microbia or targeting products from the microbia may become treatment options for HF in future.

Keywords

Heart failure, gut microbia, microbiota, trimethylamine N-oxide, lipopolysaccharide.

Disclosure: The author has no conflicts of interest to disclose.

Received: 7 November 2018 **Accepted:** 15 January 2019 **Citation:** *Cardiac Failure Review* 2019;5(2):119–22. DOI: <https://doi.org/10.15420/cfr.2018.39.2>

Correspondence: Sivadasanpillai Harikrishnan, Sree Chitra Tirunal Institute for Medical Sciences and Technology, Trivandrum, Kerala, 695011, India.

E: drharikrishnan@outlook.com

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"All diseases begin in the gut."

– Hippocrates (460–370 BC)

In recent years many researchers have described the relationship between the gut microbiota and many diseases, including heart disease, hypertension, diabetes and obesity.^{1,2} Diet is one of the major factors that influence the pattern of the gut microbiota.³ This article discusses how the gut microbiota affects heart failure.

What is the Human Gut Microbiome?

The collection of micro-organisms that co-exists within or on the host body has been referred to as the microbiota.¹ There are more than 2,000 species of commensal organisms (mostly bacteria) that co-exist with the human body, the vast majority in the gut. A healthy human adult has approximately 100 trillion bacteria in the gut, mostly in the colon.^{1,4}

The gut microbiome is acquired from the environment, it is not genetically acquired, and the gut is usually sterile in the womb. For example, the fetus acquires different microbiota during caesarean section and during vaginal delivery.⁵ Subsequently, the fetus acquires different types of microbiome depending on diet and the environment to which it is exposed.^{6,7}

The human gut microbiome is dominated by five phyla: *Bacteroidetes*, *Firmicutes*, *Actinobacteria*, *Proteobacteria* and *Cerrucomicrobia*.^{1,8} Usually the gut microbiota is stable within the individual and family. In the healthy gut, the anaerobic groups *Bacteroidetes* and *Firmicutes* contribute to more than 90% of the total bacterial species.⁸

What Decides the Pattern of an Individual's Gut Microbiome?

The specific patterns of gut microbiota are called enterotypes.⁹ An unwelcome change in the gut microbiome is called dysbiosis.¹⁰ One of the most important factors that influences the enterotype is the individual's long-term diet. For example, diets high in animal protein and fat will show high levels of *Bacteroides* and low levels of *Prevotella* (also part of the *Bacteroidetes* genus).¹¹ On the contrary, diets high in carbohydrates and low in animal protein and fat will have low levels of *Bacteroides* and high levels of *Prevotella*. Another example of the diet-gut microbial interaction is found in Japanese people. Their guts contain *Bacteroides plebeius*, which produces an enzyme that aids in seaweed digestion.¹²

Other factors that influence the gut microbial pattern other than the diet are environmental changes, hygiene, antibiotic use and disease states.^{1,6}

How the Gut Microbiota Affects the Host

The gut microbiome has many functions.¹³ One of its functions is a protective function via pathogen displacement, nutrient and receptor competition and production of antimicrobial factors.¹ The gut microbiota also secretes some vitamins.

One of the most important functions of the gut microbiome is metabolic, as it aids in the digestion of food components. For example, gut bacteria are involved in the breakdown of sugars (e.g. glycans, which are complex sugars that cannot be cleaved by any human

enzymes) by glycoside hydrolase. Gut microbiota participates in the human digestive process through two main catabolic pathways – saccharolytic or proteolytic.¹⁴ Both pathways lead to the production of short-chain fatty acids (SCFAs). The second catabolic pathway also produces toxic molecules such as ammonia, various amines, thiols, phenols and indoles, which are cleared by the kidneys but will accumulate if there is renal dysfunction.^{1,14,15}

It is reasonable to view the microbiome as an ‘organ’ that weighs approximately 1–2 kg, although it is without a distinct structure. The microbiome constantly makes compounds, some of which are absorbed and are biologically active. Thus, it can be considered as an endocrine organ producing biologically active entities that diffuse into the bloodstream and act at distant sites.¹

The gut microbiota are separated from the lamina propria by a single layer of intestinal epithelium. The intestinal epithelium deploys a variety of mechanisms to restrict commensal bacteria to the intestinal lumen and to prevent egression of these microbiota to the underlying tissue.¹⁶ The gut microbiota in turn have evolved to evade the host’s immune system and circumvent the antimicrobial host response.¹⁶

The intestinal barrier mechanism has a dual role to play – it protects against the invasion of microorganisms and absorption of bacterial toxins, but also enables the absorption of essential products, electrolytes and nutrients.¹⁷

The gut microbiota produces many substances that are able to enter the bloodstream and subsequently influence pathobiological processes. The permeability of these substances is dependent on the functional and structural integrity of the mucosal barrier. Potential barrier disruptors include hypoperfusion of the gut, infections, toxins, drugs and other lifestyle factors.¹⁷ Sometimes it may be a structural component of the microbiota itself, such as lipopolysaccharides (LPS) or peptidoglycans, that interact with host mucosal surface cells through pattern recognition receptors.^{1,18}

In addition, molecules produced by microbial organisms can also gain entry to cause various effects. Some identified pathways include the trimethylamine N-oxide (TMAO) pathway, the SCFA pathway and the bile acid pathway.¹ The precursor of TMAO is L-carnitine or choline, which is present in food substances such as red meat. If a person has a high intake of red meat, TMAO production is increased, which is implicated in the pathogenesis of heart disease.²

How Do We Study the Gut Microbiome?

It is not easy to study the gut microbiome because it contains millions of bacteria and thousands of species. There are also fungi and viruses present, which can pose difficulties because their genetic material interferes with the identification of the bacterial genome in question. A further issue with studying the gut microbial genome is that the microbial community is distinct in different regions of the intestine, and also because the genome changes frequently due to horizontal gene transfer.¹⁹

The traditional method is culture, but it is tedious and time consuming. Bacterial genomic sequencing is the next most suitable method. One popular method is 16S ribosomal RNA (rRNA) gene amplicon analysis. Metagenomic sequencing, another method that is gaining popularity,

is usually more expensive but offers increased resolution, enabling a more specific taxonomic and functional classification.²⁰ Wang et al. explained this as: “16S rDNA sequence attempts to reveal ‘who’s there?’ in a given microbial community, while shotgun metagenomic sequencing can be used to answer the complementary question of ‘what can they do?’.”²¹

Association of the Gut Microbiota with Heart Disease

There are many recent publications on the association between the gut microbiota and heart disease, especially heart failure.^{22–26} Changes in the gut microbiota can lead to the development of risk factors for atherosclerotic vascular disease and directly influence pathogenetic disease processes such as acute coronary syndromes and heart failure.²⁷

Obesity is one example. Its pathology is associated with changes in the relative abundance of two dominant bacterial divisions, *Bacteroidetes* and *Firmicutes*.²⁸ Obese patients have been shown to display high *Firmicutes* counts. It has also been found that the obese microbiome has an increased capacity to harvest energy from the diet, and that the obese “trait” is transmissible: colonisation of germ-free mice with an obese microbiota results in a significantly greater increase in total body fat than colonisation with a lean microbiota, with the same diet.²⁹

In addition, hypertension and diabetes have also been found to have associations with specific gut microbial patterns, and researchers have discovered certain links in the pathogenesis of these diseases and bacterial interactions.^{22,30,31}

In a study comparing patients who had coronary heart disease (CHD) with those who did not, it was found that in patients who had CHD, the proportion of the phylum *Bacteroidetes* was lower, with a higher proportion of *Firmicutes*.³² Increased TMAO levels were found to be associated with an increased risk of incident major adverse cardiovascular events (MACEs) in a cohort of 4,007 patients who underwent coronary angiography followed up for 3 years.³³ In another study, a Cleveland clinic cohort of 530 patients presenting to the emergency department with chest pain showed elevated plasma TMAO levels at presentation that were independently associated with risk of MACEs.³⁴ The *Bacteroidetes:Firmicutes* ratio is known to be altered in all chronic diseases and therefore may not be a reliable identifier of a particular disease.

Raised TMAO levels are implicated in endothelial and smooth muscle cell activation, foam cell formation, and myocardial and renal fibrosis.² In a recent systematic review and meta-analysis (16 publications, 19,256 patients), elevated concentrations of TMAO and its precursors were associated with increased risks of MACEs and all-cause mortality, independent of traditional risk factors.³⁵ Another meta-analysis and systematic review of 26,167 patients also showed a positive dose-dependent association between TMAO plasma levels and increased cardiovascular risk and mortality.³⁶

Association of the Microbiota with Heart Failure

The gut microbiota is also implicated in the pathogenesis of heart failure (HF). In HF, due to reduced ejection fraction, there is a reduction in intestinal blood flow and low oxygen delivery. This predisposes the gut to the growth of pathogenic types of anaerobic bacteria.³⁷

Patients with chronic HF also develop bowel wall oedema due to venous congestion that impedes the absorptive function of the gut and permits bacterial overgrowth in the mucus layer adjacent to the apical surface of the colonic mucosa.³⁶ Increased intestinal permeability, assessed by the sugar cellobiose test, has also been reported in patients with HF, and this increased permeability correlates with right atrial pressure and C-reactive protein levels.^{38,39}

These bacteria produce many harmful substances including TMAO and endotoxin (LPS), which predisposes or leads to worsening of HF. These discoveries have led to the hypothesis of the heart–gut axis of HF (Figure 1).^{40,41} Higher LPS concentrations have been found in patients with decompensated HF, which correlates with the increased level of bowel wall oedema, as discussed earlier. LPS decreases after ‘re-compensation’. According to Sandek et al., this suggests a cause and effect relationship between the oedematous gut wall, epithelial dysfunction and translocating LPS.⁴²

High TMAO levels are found in patients with HF, which predict higher long-term mortality, even after adjusting for traditional risk factors and cardiorenal indexes.⁴¹ TMAO has been found to be a prognostic factor in HF patients, and higher levels predict a poor prognosis at 1-year follow-up. A combination of TMAO and the traditional marker N-terminal pro-brain natriuretic peptide are able to provide additional prognostic information.⁴³

Why do TMAO levels increase to such an extent in HF? The changes in bacterial composition, as discussed earlier, appear to be the primary driver of TMAO levels.²⁵ Renal impairment and changing dietary patterns may also contribute.²⁵ How TMAO affects the pathobiology of HF is not clear. Proposed theories include stimulation of cytokines such as tumour necrosis factor- α , which can aggravate myocardial fibrosis, microvascular dysfunction in the heart independent of its proatherosclerotic effects, neurohormonal derangements, and so on, but we do not yet have a clear answer.²⁵

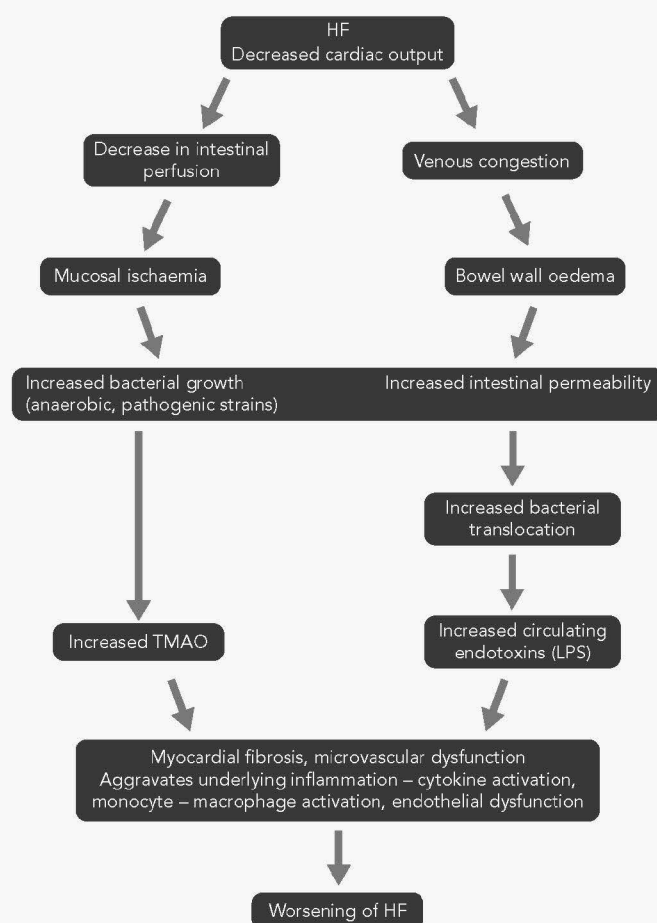
Can We Manipulate the Gut Microbiome to Treat Disease?

There are some studies on manipulation of the gut microbiome that give us hope in treating related diseases. Manipulation can be achieved in many ways. We can alter the diet to change the type of microbiota, we can target the chemicals produced by the gut microbiota, or we can directly alter the microbial flora by the addition of probiotics.

If we reduce red meat in the diet, we reduce the intake of choline and lecithin, and thereby reduce TMAO, which has a positive impact on the risk of heart disease. For example, changing to a Mediterranean diet has been shown to reduce markers of HF. Another method is to administer nonabsorbable antibiotics that kill specific microbiota and thus alter the overall microbial pattern.

Probiotics is another method that can alter the gut’s microbial pattern. Probiotics are live beneficial bacteria (*Bifidobacteria*, *Lactobacilli*, *Streptococci* and non-pathogenic strains of *Escherichia coli*) that can be ingested to create an appropriate intestinal microbial balance. There are studies using *Saccharomyces boulardii* in HF that have shown benefit. However, the positive effects of probiotics only apply to a restricted group of microbial species and potential hazards exist, including the possibility of turning these microbiota into opportunistic pathogens in immunocompromised individuals.⁴⁴

Figure 1: Hypothesis of the Heart–Gut Axis in Heart Failure



HF = heart failure; LPS = lipopolysaccharides; TMAO = trimethylamine N-oxide.

The ongoing Gut-Heart trial has randomised 150 patients with stable HF and a left ventricular ejection fraction <40% to receive the antibiotic rifaximin, the probiotic yeast *S. boulardii* (ATCC 74012) or no treatment in a 1:1:1 fashion.⁴⁵ The primary endpoint is ejection fraction at 3 months. The outcome of the trial will shed some light into the possible therapeutic avenues in the future targeting gut microbiome.

The last – and very interesting – method that is gaining popularity in the treatment of many gastrointestinal diseases is faecal transplantation. Faecal transplantation from lean volunteers was found to show a benefit in weight reduction as well as a reduction in risk factor levels for HF.⁴⁶

We are not yet sure of the best method to alter the gut microbiota; however, the most safe and promising option may be to rely on alteration of the diet.

Conclusion

Millions of years of co-evolution have created diverse ecosystems of gut microbiota that contribute to the maintenance of human metabolic homeostasis. We are slowly discovering the various ways that these co-habitants work in health and disease. We are therefore not alone – we are linked with our gut microbiota, which controls our systems remotely. Understanding and manipulating the microbiota may hold future answers for health and disease. ■

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Review

Gut Microbiome and Cardiovascular Diseases

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Abstract: Recent evidence has suggested that the gut microbiome is involved in human health and diseases, such as inflammatory bowel disease, liver cirrhosis, rheumatoid arthritis, and type 2 diabetes. Cardiovascular diseases, which are associated with high morbidity and mortality across the world, are no exception. Increasing evidence has suggested a strong relationship between the gut microbiome and the progression of cardiovascular diseases. We first reported such a relationship with coronary artery disease two years ago. Next-generation sequencing techniques, together with bioinformatics technology, constantly and dramatically expand our knowledge of the complex human gut bacterial ecosystem and reveal the exact role of this bacterial ecosystem in cardiovascular diseases via the functional analysis of the gut microbiome. Such knowledge may pave the way for the development of further diagnostics and therapeutics for prevention and management of cardiovascular diseases. The aim of the current review is to highlight the relationship between the gut microbiome and their metabolites, and the development of cardiovascular diseases by fostering an understanding of recent studies.

Keywords: gut microbiome; cardiovascular diseases; *Bacteroides*

1. Introduction

The human gastrointestinal tract harbors several hundred trillion bacteria that are collectively referred to as the gut microbiome, which is called the “forgotten organ” because of its important roles beyond digestion and metabolism [1,2]. Growing evidence suggests that the gut microbiome is associated with the pathogenesis of both intestinal and extra-intestinal disorders, such as obesity and other related metabolic diseases, inflammatory bowel disease, and non-alcoholic steatohepatitis, among others [3–5]. Next-generation sequencing techniques and multi-omics approaches have constantly and dramatically expanded our knowledge of the microbial world. A new era is dawning with the recognition of the gut microbiome as a “multifunctional organ”. Unsurprisingly, cardiovascular diseases (CVDs) are no exception to this association [6].

CVDs are the leading causes of mortality and morbidity in many developed and developing countries, despite the widespread use of medical therapy in the last decade [7–9]. CVDs are responsible for 17.7 million deaths every year (31% of all global deaths), including one of every three deaths in the United States and one of every four deaths in Europe and Japan [8]. By 2030, 40.5% of the US population is projected to have some form of CVD. Between 2010 and 2030, the real, total direct medical costs of CVD are predicted to triple from \$273 billion to \$818 billion, and the real, indirect costs (owing to lost productivity) for all CVDs are estimated to increase by 61% (\$172 billion to \$276 billion) [10]. These data strongly support the idea that effective and inexpensive prevention and therapeutic strategies are needed for patients with CVDs. The gut microbiome contributes to human metabolism and the immune system, and is being currently investigated as a diagnostic and therapeutic target for CVDs. Thus, the aim of this review is to discuss the evidence for the relationship

between the gut microbiome and CVDs to promote an understanding of the latest perspectives of the role of the gut microbiome in CVDs. Moreover, we have raised several issues that should be considered when interpreting previous evidence.

2. Trimethylamine-N-oxide and CVDs

A close relationship between the gut microbe-dependent production of trimethylamine-N-oxide (TMAO), derived from specific dietary nutrients such as choline and carnitine, and future cardiovascular events has been widely recognized [10]. Trimethylamine (TMA), which is produced by the gut microbial enzymes TMA lyases, is a precursor of TMAO. TMAO can be measured by liquid chromatography-mass spectrometry. Elevated blood TMAO levels have been directly linked to poor outcomes in patients with CVDs, such as coronary artery disease and acute and chronic heart failure (Table 1) [11–16]. Tang et al., investigated the relationship between the fasting plasma levels of TMAO and the incidence of major adverse cardiovascular events (death, myocardial infarction, or stroke) during three years of follow-up in 4007 patients undergoing elective cardiac catheterization [13]. They found that the patients in the highest quartile for circulating TMAO levels had a 2.5-fold increased risk of major adverse cardiovascular events, compared with the patients with values in the lowest quartile. Of note, even after adjustment for traditional risk factors, an elevated TMAO level could predict an increased risk of major adverse cardiovascular events [13]. Additionally, high TMAO levels were observed in patients with stable heart failure compared to healthy subjects [11]. This result suggests that the gut microbiome may play a role in the development and progression of heart failure. They also showed that elevated TMAO levels were associated with a 2.2-fold increase in the risk of mortality, after an adjustment for traditional risk factors and the brain natriuretic peptide. Moreover, the blood TMAO levels were associated with coronary plaque vulnerability, as assessed by optical coherence tomography, and the long-term risks of cardiovascular events in patients with acute coronary syndrome [14]. The latest metagenome-wide association study demonstrated the microbial characterization of coronary artery disease (CAD) patients and showed that the gut microbial enzymes that produce TMA were enriched in the patients with CAD compared to the healthy controls [17].

As different gut microbial compositions generate different levels of TMAO [18], higher blood TMAO levels and an increased CVD risk can be attributed to a TMA-producing microbiome harboring TMA lyases. These findings support the idea that prevention of CVD is feasible through gut microbial modulation. However, the area under the receiver operating characteristic curve, based on TMA lyases, was not sufficient to predict the incidence of CAD (Area Under the Curve = 0.63). Moreover, a recent clinical trial has shown that fish consumption increases the circulating TMAO levels, highlighting the substantial limitations in our current understanding of the relationship between diet and gut microbial TMAO production [18]. Moreover, all available clinical studies are cross-sectional studies or cohort studies, not interventional studies. Further research is needed to elucidate whether TMAO contributes directly to the progression of CVD or reflects the presence of a deleterious colonic microbial metabolism, dietary habits, or renal tubular dysfunction. In addition, the distribution of TMAO levels in the general population is unknown, and standard reference values are not currently available [19]. A detailed understanding of the biological role of TMAO in CVD patients is crucial for evaluating the feasibility of developing drugs that affect the TMAO levels or the possibility of using TMAO as a marker of CVD.

Table 1. Major clinical reports demonstrating the impact of circulating trimethylamine-N-oxide (TMAO) levels on cardiovascular diseases (CVD).

Year	Study Population	Number of Subjects	Main Outcome	Follow-Up Period	Results
2013 <i>N. Engl. J. Med.</i>	Patients who were undergoing elective diagnostic cardiac catheterization	4007 in USA	Major cardiovascular events (myocardial infarction, stroke), or death	3 years	Increased TMAO levels were associated with an increased risk of major adverse cardiovascular events or death
2014 <i>J. Am. Coll. Cardiol.</i>	Stable heart failure patients underwent elective coronary angiographic evaluation	720 in USA	All-cause mortality (death)	5 years	Elevated TMAO levels portended higher long-term mortality risk
2015 <i>J. Card Fail</i>	Chronic systolic heart failure with comprehensive echocardiographic evaluation	112 in USA	Adverse clinical events (death/transplantation)	5 years	Higher TMAO levels were associated with a higher incidence of death/transplantation
2016 <i>Heart</i>	Acute heart failure	972 in UK	All-cause mortality (death) and a composite of death or re-hospitalization due to heart failure (death/HF)	1 year	Elevated levels were associated with a higher incidence of death/HF
2016 <i>Am. J. Cardiol.</i>	Coronary artery disease	26 in China	Coronary plaque vulnerability assessed by optical coherence tomography	-	Plasma TMAO level was significantly higher in patients with plaque rupture than in those without plaque rupture
2017 <i>Clin. Chem.</i>	Acute myocardial infarction	1079 in UK	Composite of all-cause mortality and re-infarction (death/myocardial infarction)	2 years	TMAO levels were associated with death/MI

3. Other Gut Microbial Metabolites and CVD

There are a number of other gut microbial metabolites in addition to TMA. These metabolites have also been reported to have a link to CVDs. Indoxyl sulfate is produced by gut microbial tryptophanases that convert dietary tryptophan into indole, which is then converted to indoxyl and indoxyl sulfate in the liver by the sequential actions of cytochrome P450 enzymes and sulfotransferase 1A1. Indoxyl sulfate has been shown to have pro-inflammatory and pro-oxidant effects in cardiomyocytes and cardiac fibroblasts. Furthermore, recent reports have shown that indole and indoxyl sulfate affect the arterial blood pressure via peripheral and central mechanisms that depend on serotonin signaling in rats [20].

Short chain fatty acids (SCFAs), produced by the colonic bacterial fermentation of dietary fiber, contribute a significant proportion of the daily energy requirement [21]. SCFAs, especially butyrate and propionate, play an important role in regulatory T cell differentiation and intestinal tract immune regulation. The increased production of acetate by the gut microbiota of rodents leads to the activation of the parasympathetic nervous system, which promotes increased glucose-stimulated insulin secretion, hyperphagia, and obesity. However, no reports have described the direct impact of SCFAs on the incidence and progression of cardiovascular diseases [22].

The gut microbiome utilizes sulfur-containing compounds to produce hydrogen sulfide. Hydrogen sulfide is an important biological mediator that is involved in various physiological processes, including the regulation of arterial blood pressure [23]. Moreover, phenylacetylglutamine is a product that is formed by the conjugation of phenylacetate and glutamine. High serum levels of phenylacetylglutamine have been observed in patients with advanced chronic kidney disease, and as a strong and independent risk factor for overall mortality and cardiovascular diseases [24]. P-cresyl sulfate, a secondary metabolism of p-cresol, is also a microbial metabolite. Increased levels of p-cresyl sulfate are associated with worse outcomes in patients with chronic kidney disease [25].

These results suggest that gut microbial metabolites may play an important role in the development of CVD. Further studies are warranted to elucidate the causal relationship between these metabolites and CVD.

4. Alterations of the Gut Microbial Structure Associated with CVD

Several studies have been conducted to elucidate which gut bacterial species are involved in the incidence and progression of CVD (Table 2) [17,26–28]. We were the first to report that the incidence of CAD was linked to an alteration of the gut microbial composition [28,29]. We have reported a lower abundance of the phylum *Bacteroidetes* and a higher abundance of the order *Lactobacillales* in patients with CAD compared to non-CAD patients with coronary risk factors, such as diabetes, hypertension, or dyslipidemia, and healthy volunteers using terminal restriction fragment length polymorphism analysis, which is one of the most well-established and reliable 16S rRNA-based methods. The *Firmicutes/Bacteroidetes* ratio, an indicator of dysbiosis, increased in the CAD patients compared with the non-CAD controls. Interestingly, our data revealed that the CAD patients were significantly more likely to be categorized as enterotype III, which is characterized by low levels of *Bacteroides*, compared with the non-CAD controls. Last year, a metagenome-wide association study of fecal samples from 218 CAD patients and 187 healthy subjects from China was reported [17]. The abundance of *Enterobacteriaceae* was significantly higher in the CAD patients compared to the healthy subjects. The abundance of *Streptococcus* spp. was also significantly higher in the patients with CAD than in the healthy subjects. This may be due to the use of proton pump inhibitors in CAD patients [30]. Consistent with our results, *Bacteroides* spp. were significantly depleted in the CAD patients. Given that *Bacteroides* spp. are known to have an important role in maintaining a healthy gut ecosystem [31], and that the abundance of *Bacteroides* spp. was found to decrease in patients with atherosclerotic ischemic stroke and transient ischemic attack [27], *Bacteroides* spp. may have the potential to regulate atherosclerosis progression. Furthermore, *Faecalibacterium prausnitzii*, which exhibits anti-inflammatory effects [32], was also significantly depleted in the CAD patients. Of note, the co-abundance network structure differed between the two groups. The negative

correlations between *Streptococcus* spp. and *Bacteroides* spp. were observed only in the CAD patients. On the other hand, the positive correlation between *Bacteroides* spp. and *Erysipelotrichaceae* bacterium was seen only in the healthy subjects. These results implied that a peculiar inter-species relationship in the gut microbiome may exist in CAD patients compared to healthy subjects.

Additionally, there are some studies that have demonstrated the relationship between the gut microbiome and heart failure (HF). Kamo et al., first reported the gut microbial difference in Japanese heart failure patients [33]. They performed a 16S rRNA gene sequencing analysis of fecal samples from 12 HF patients and 12 age-matched healthy subjects. They further compared the gut microbiome in HF patients according to age; the gut microbiome in the 12 HF patients younger than 60 years of age were compared with those of the 10 HF patients 60 years of age or older. Although the richness and diversity of the gut microbiota were not significantly different between the HF patients and healthy subjects, *Dorea* and *Clostridium* were less abundant in the HF patients than in the healthy subjects. Moreover, older HF patients had a lower abundance of *Bacteroidetes* and a higher abundance of *Proteobacteria* compared to the younger HF patients. There is also a report from China that shows a metagenomic analysis of fecal samples from patients with chronic HF [34]. They enrolled 53 HF patients and 41 controls with risk factors and compared the compositions of their gut microbiomes. *Ruminococcus*, *Acinetobacter*, and *Veillonella* increased in the HF patients, whereas *Alistipes*, *Faecalibacterium*, and *Oscillibacter* decreased. In line with the previous report, *Faecalibacterium prausnitzii* decreased in the HF patients compared to the controls. The results of these studies suggest that an altered gut microbiome may have an impact on the development and progression of heart failure. This evidence paves the way for further studies investigating the gut microbiome in the prevention and management of CVD.

Table 2. Clinical reports demonstrating the gut microbiome in patients with CVD.

Year	Study Population	Country	Analysis	Results
2012 <i>Nat. Commun.</i>	12 patients with symptomatic atherosclerosis (myocardial infarction or cerebrovascular events) and 13 age- and sex-matched healthy individuals.	Sweden	Gut metagenome	<i>Collinsella</i> ↑, <i>Eubacterium</i> ↓, <i>Roseburia</i> ↓ in patients with symptomatic atherosclerosis.
2015 <i>J. Am. Heart Assoc.</i>	141 patients with stroke and transient ischemic attack (stroke/TIA patients) and 94 asymptomatic controls.	China	16S rRNA V4 region	<i>Enterobacteriaceae</i> ↑, <i>Proteobacteria</i> ↑, <i>Escherichia/Shigella</i> ↑, <i>Bacteroidetes</i> ↓, <i>Bacteroidales</i> ↓, <i>Bacteroidaceae</i> ↓, <i>Bacteroides</i> ↓ in stroke/TIA patients.
2016 <i>J. Atheroscler. Thromb.</i>	39 coronary artery disease (CAD) patients, 30 age- and sex-matched no-CAD controls with coronary risk factors, and 50 healthy volunteers without coronary risk factors.	Japan	Terminal restriction fragment length polymorphism	<i>Firmicutes/Bacteroidetes</i> ratio ↑, <i>Lactobacillales</i> ↑, <i>Bacteroides</i> + <i>Prevotella</i> ↓ in CAD.
2017 <i>Nat. Commun.</i>	218 individuals with atherosclerotic cardiovascular disease (ACVD) and 187 healthy controls.	China	Gut metagenome	<i>Enterobacteriaceae</i> (<i>Escherichia coli</i> , <i>Klebsiella</i> spp., and <i>Enterobacter aerogenes</i>), <i>Streptococcus</i> spp., <i>Lactobacillus salivarius</i> , <i>Solobacterium moorei</i> , <i>Atopobium parvulum</i> , <i>Ruminococcus gnavus</i> , <i>Eggerthella lenta</i> ↑, <i>Roseburia intestinalis</i> ↓, <i>Faecalibacterium</i> cf. <i>prausnitzii</i> ↓, <i>Bacteroides</i> spp. ↓, <i>Prevotella copri</i> ↓, <i>Alistipes shahii</i> ↓ in ACVD.

5. Alterations in Gut Microbial Function Associated with CVD

In addition to the compositional characteristics, the functional characteristics of the gut microbiome have been investigated in order to delineate the mechanisms related to the development of CVD. Although metagenomic shotgun sequencing analysis is the main method to examine the functional characteristics, methods are being developed to predict functional profiles from taxonomic profiles. Phylogenetic Investigation of Communities by Reconstruction of Unobserved States (PICRUSt) is a bioinformatics software package designed to predict metagenomic functional content from the 16S rRNA gene [35]. The Kyoto Encyclopedia of Genes and Genomes (KEGG) modules are usually used to construct a functional map of the gut microbiome [36].

The first shotgun sequencing of the gut metagenome in patients with symptomatic atherosclerotic plaques in their carotid arteries was a study with a small number of samples [27]. They showed that genes that encode proteins involved in peptidoglycan synthesis were enriched, and those that encode phytoene dehydrogenases were depleted in the patients compared to these genes in healthy subjects. Considering that gut bacterial function differs even within the same strain, a metagenomic shotgun sequencing study must provide us with further detailed information. Five years later, Jie et al., have reported a metagenomic shotgun sequencing study with 218 CAD patients and 187 healthy subjects [30]. They revealed alterations in gut microbial functional modules in CAD patients, such as the phosphotransferase system, amino acid transporters, vitamin metabolism, lipopolysaccharide biosynthesis, and the activities of SCFAs and TMA lyases.

With regard to HF, Cui et al., have investigated the metabolic patterns of the gut microbiome in patients with chronic HF to provide direct evidence and a comprehensive understanding of gut microbial dysbiosis [34]. Fifty-three chronic HF patients (ischemic cardiomyopathy, $n = 29$; dilated cardiomyopathy, $n = 24$) and 41 controls with risk factors were enrolled. They found an elevation in the microbial genes for lipopolysaccharide biosynthesis, tryptophan, and TMAO generation in the chronic HF patients. This result provides a convincing explanation for the increased plasma lipopolysaccharide levels in HF patients [37], because the main source of lipopolysaccharides is the gut/gut microbiome. Moreover, increased expression of the genes for phosphotransferase systems and decreased gene expression for the synthesis and transport of amino acids, nucleotide sugar biosynthesis, and the iron transport system were observed in the HF patients compared with the controls. These disease-dependent unique features in the functional capacity may give us clues for novel therapeutic approaches.

6. Issues to Be Considered When Interpreting the Studies

Most clinical studies compare the gut microbial composition between patients and healthy controls. Administration of medication has a substantial effect on the gut microbiome, and medication-matched controls are required to elucidate the impact of the gut microbiome on disease progression. Moreover, the studies mentioned above have provided useful characterization of the fecal microbial profile in patients with CVD; however, we are still struggling with these descriptive data. A specific gut microbiome-based target to prevent CVD has yet to emerge, which is the greatest challenge that we are currently facing. It may take a little more time to conduct a large cohort study or a translational study to promote a deeper understanding of how the gut microbiome directly contributes to CVD. While we already know that diet, prebiotics, probiotics, a specific IgA antibody, and enzymes can modulate the gut microbiome and its function [38,39], these interventions for patients with CVD are constrained by ethical considerations or funding limitations. In such cases, an in vitro fermentation system simulating the human intestinal tract may help to evaluate the functionality or safety of these interventions under highly reproducible conditions without the ethical issues [40]. Specifically, we can culture feces from patients with prebiotics or probiotics in an in vitro fermentation system and analyze how the gut microbiome, and its metabolites and functions, are changed after the intervention. Of note, we have observed some discrepancies between the findings in humans and mice. These may be due to

the differences in the natural gut microbiome. It is important to pay attention to the complexities of translating the findings from an animal model to humans.

7. Conclusions

In summary, recent evidence on the potential interaction between the gut microbiome and cardiovascular diseases is intriguing. With increasing awareness of the relationship between the gut microbiome and CVD, we have high expectations for the clinical application of gut microbiome modulation. Further studies, focusing on a more specific and mechanistic understanding of the gut microbiome in the pathogenesis of CVD, are necessary to develop novel diagnostic and therapeutic strategies for CVD.

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Taurine deficiency in dogs with dilated cardiomyopathy: 12 cases (1997–2001)

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Objective—To determine signalment, history, clinical signs, blood and plasma taurine concentrations, electrocardiographic and echocardiographic findings, treatment, and outcome of dogs with low blood or plasma taurine concentrations and dilated cardiomyopathy (DCM).

Design—Retrospective study.

Animals—12 client-owned dogs with low blood or plasma taurine concentrations and DCM.

Procedure—Medical records were reviewed, and clinical data were obtained.

Results—All 12 dogs were being fed a commercial dry diet containing lamb meal, rice, or both as primary ingredients. Cardiac function and plasma taurine concentration improved with treatment and taurine supplementation. Seven of the 12 dogs that were still alive at the time of the study were receiving no cardiac medications except taurine.

Conclusions and Clinical Relevance—Results suggest that consumption of certain commercial diets may be associated with low blood or plasma taurine concentrations and DCM in dogs. Taurine supplementation may result in prolonged survival times in these dogs, which is not typical for dogs with DCM. Samples should be submitted for measurement of blood and plasma taurine concentrations in dogs with DCM, and taurine supplementation is recommended while results of these analyses are pending. (*J Am Vet Med Assoc* 2003;223:1137–1141)

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Plasma amino acid and whole blood taurine concentrations in cats eating commercially prepared diets

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Objective—To establish comprehensive reference ranges for plasma amino acid and whole blood taurine concentrations in healthy adult cats eating commercial diets and to evaluate the relationships of age, sex, body weight, body condition score (BCS), dietary protein concentration, and dietary ingredients with plasma amino acid and whole blood taurine concentrations.

Animals—120 healthy adult cats.

Procedures—Blood samples and a complete health and diet history were obtained for each cat, and reference intervals for plasma amino acid and whole blood taurine concentrations were determined. Results were analyzed for associations of age, breed, sex, body weight, BCS, use of heparin, sample hemolysis and lipemia, dietary protein concentrations, and dietary ingredients with amino acid concentrations.

Results—95% reference intervals were determined for plasma amino acid and whole blood taurine concentrations. A significant difference in amino acid concentrations on the basis of sex was apparent for multiple amino acids. There was no clear relationship between age, BCS, body weight, and dietary protein concentration and amino acid concentrations. Differences in amino acid concentrations were detected for various dietary ingredients, but the relationships were difficult to interpret.

Conclusions and Clinical Relevance—This study provided data on plasma amino acid and whole blood taurine concentrations for a large population of adult cats eating commercial diets. Plasma amino acid and whole blood taurine concentrations were not affected by age, BCS, or body weight but were affected by sex and neuter status. Dietary protein concentration and dietary ingredients were not directly associated with plasma amino acid or whole blood taurine concentrations. (*Am J Vet Res* 2009;70:1374–1382)

The past 4 decades have been a time of dramatic advances in knowledge of feline nutrition, especially the relationships between protein metabolism and numerous disease states. Blood amino acid concentrations have been used for years to aid in the assessment of nutritional and protein status of cats and have a pivotal role in the diagnosis of specific medical conditions. The ability to measure whole blood and plasma taurine concentrations in cats aided in the discovery that taurine deficiency was a major cause of central retinal degen-

ABBREVIATIONS

BCS	Body condition score
NRC	National Research Council
SSA	Sulfosalicylic acid

eration¹ and dilated cardiomyopathy² in cats. These discoveries have saved many cats from these debilitating and potentially fatal diseases. Without the ability to analyze blood amino acid concentrations, these important connections may never have been made. Amino acid analysis has also been of benefit in investigating many other disease processes, including liver disease,³ diabetes mellitus,^{4,5} heart disease,⁶ and even brain injury,⁷ in humans and other animals, but comparatively little of this research has focused on cats.

Blood amino acid concentrations are dynamic and can be reflective of the most recently consumed diet when samples are obtained during the immediate postprandial period.^{8,9} Alternatively, they can reflect the mean amino acid concentrations in protein-malnourished animals that eat a constant diet, thus allowing detection of severe and chronic amino acid deficiencies.¹⁰

Despite a long history of the use of amino acid concentrations for diagnostic and research purposes, there

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are few reports of typical amino acid concentrations in plasma and whole blood of adult cats eating commercial diets. Although plasma amino acid concentrations for adult cats eating commercial diets have been published in 2 studies,^{6,11} neither of those studies was designed to establish representative reference ranges; therefore, data were reported for only small numbers of healthy cats (29 and 24 cats, respectively) used as control animals in those studies. Additionally, neither study specifically addressed the diets being fed to the cats.

Currently, published reference values for feline amino acid concentrations have come primarily from studies¹²⁻¹⁵ in which investigators evaluated amino acid requirements and protein metabolism in growing kittens consuming purified diets. Those diets were formulated with crystalline amino acids or protein concentrates (such as casein and soy protein), and the bioavailability of amino acids in such diets is extremely high.^{16,17} In contrast, commercial foods undergo processing that may negatively impact the bioavailability of some amino acids, such as lysine, tryptophan, methionine, and cysteine.^{10,18-20} Additionally, those studies¹²⁻¹⁵ used only small numbers of growing kittens that were closely related and lacked the genetic diversity inherent in the general feline population. The potential problem with the use of data obtained from genetically similar animals consuming purified diets to develop reference ranges and nutritional recommendations was addressed in 2006 in the recent version of an NRC publication.¹⁰ That publication acknowledged the differences between diet types and provided nutrient requirement recommendations based on the availability of nutrients in ingredients commonly used in foods commercially available for pets.

Our intent in the study reported here was to establish reference ranges for plasma amino acid and whole blood taurine concentrations in cats. We hypothesized that there would be associations between amino acid concentrations and dietary protein concentrations and ingredients. The first objective was to obtain samples from a large number of cats to facilitate the creation of new reference ranges to more accurately reflect the general feline population. A second objective was to analyze the collected data for relationships between plasma amino acid concentrations and signalment, body weight, BCS, dietary protein, and dietary ingredients. Other studies have not adequately addressed how sex, age, body weight, and BCS affect plasma amino acid concentrations, and such information allows for better interpretation of plasma amino acid values in clinically affected animals. In another study²¹ conducted by our laboratory group, we detected a relationship between dietary ingredients and plasma amino acid concentrations, particularly taurine, methionine, and cysteine, in dogs. This relationship may also be relevant in cats because there has been a shift toward increasing the use of plant-based protein sources in commercially available pet foods. These ingredients can have lower concentrations of essential amino acids that may also be preferentially impacted by processing, which can result in a decrease in digestibility and bioavailability.²²⁻²⁵

Materials and Methods

Animals—Blood samples were obtained from 120 cats consuming commercially prepared feline diets. All cats were free of apparent systemic illness; obesity was not considered grounds for exclusion. The study population consisted of pet cats belonging to students, faculty, and staff of the School of Veterinary Medicine at the University of California-Davis, as well as a lesser number of university-owned cats housed in 2 separate colony facilities. Owners of participating pet cats provided written consent for use of their cats in the study. This study was reviewed and approved by the Institutional Animal Care and Use Committee of the University of California-Davis.

Development of reference intervals—All owners were instructed to feed their cats 3 to 5 hours before blood collection because blood amino acid concentrations are affected by meals and food deprivation.²⁶ Age, sex, neuter status, breed, body weight, BCS (9-point scale),²⁷ and current health status (detection of vomiting, diarrhea, sneezing, or coughing or changes in appetite, body weight, urination, or water intake) were recorded at the time of sample collection. One investigator (CRH) assigned a BCS to each privately owned cat and the cats from one of the university facilities. A staff veterinarian assigned the BCS for each cat at the second university facility. Both of these people used the same criteria²⁷ to assign each BCS and were experienced with the technique. Some university-owned cats were fed *ad libitum*, and samples were obtained at various intervals after eating (estimated time ranged from the immediate postprandial period up to 5 hours after eating).

Collection of blood samples—A blood sample (1 to 2 mL) was obtained from each cat with a heparinized or unheparinized syringe via jugular or medial saphenous venipuncture. Heparin supplies were unexpectedly interrupted because of a major recall²⁸ during the sample collection period; thus, heparin was not available for all samples (heparin was available at the beginning and end but not during the middle of the sample collection period). Regardless of whether the syringe was heparinized, all blood samples were immediately transferred to lithium heparin blood tubes; tubes were then gently inverted several times. When ≥ 1.5 mL of blood was collected, 0.5 mL of the sample was placed in a separate tube and frozen at -80°C for determination of whole blood taurine concentration. The remainder of the blood sample was centrifuged within 1 hour after collection. After centrifugation, plasma was immediately harvested and placed in labeled 1.5-mL microcentrifuge tubes. Plasma from most of the pet cats and cats from 1 university colony ($n = 94$) was subjectively assessed for lipemia and hemolysis by 1 investigator (CRH), who assigned a grade of mild, moderate, or severe. Two hundred microliters of plasma was removed, and an equal volume of 6% SSA (with a norleucine internal standard) was added to precipitate protein in the sample. All samples were maintained at -80°C until analysis. Interval between sample collection and analysis ranged from 1 to 60 days.

Assessment of amino acids—Plasma amino acid and whole blood taurine concentrations were analyzed

as described elsewhere.²⁰ Briefly, an automated amino acid analyzer^a was used to perform cation-exchange high-pressure liquid chromatography separation and ninhydrin-reactive colorimetric detection. Complete plasma amino acid analysis (of 24 amino acids) was performed for all pet cats. One of the colony facilities mandated specific husbandry and security protocols that precluded immediate treatment of the samples with SSA; thus, cysteine concentrations could not be determined for all cats.³⁰ Furthermore, whole blood taurine concentration was only determined in cats when ≥ 1.5 mL of blood was obtained.

Evaluation of the effect of signalment, body weight, BCS, and diet on amino acid concentrations—All owners of pet cats completed a questionnaire on diet history. The questionnaire included information on the diet or diets fed, amount fed per day, number of times fed per day, amount of time fed the current diet or diets, food storage method, treats, treat amounts, treat frequency, supplemental products, amount of supplemental products, frequency of supplemental products, access to other animals' food, any medications, and exercise frequency. Information on diet and health history was obtained from university records for all university-owned cats. Only cats fed a single diet were included in the analysis to determine whether diet affected plasma amino acid concentrations. Dietary protein content (in g/100 kcal) was obtained from the diet manufacturer or calculated from the guaranteed analysis by use of modified Atwater factors.¹⁰

Statistical analysis—Statistical analysis was performed with computer software programs.^{b-d} Results for tests of normality as well as the mean; median; SD; 0, 2.5th, 50th, 97.5th, and 100th percentile values; and 95% reference intervals based on percentiles were determined for each amino acid.

Multiple linear regression was used to assess relationships of age, body weight, and BCS with plasma amino acid concentrations. Population measures and dietary data were described by use of median, mean, and SD when appropriate. Kruskal-Wallis tests were used to evaluate potential relationships between sex-neuter status and plasma amino acid concentrations. Mann-Whitney tests were used to investigate the potential association of heparin use during blood collection with amino acid concentration, and Jonckheere-Terpstra tests were used to assess the association between ordinal categories of lipemia and hemolysis with amino acid concentration. Values of $P \leq 0.05$ were considered significant. Values of $R^2 > 0.5$ were considered indicative of a strong linear correlation.

Relationships between dietary ingredients and plasma amino acid concentrations were investigated by use of Kruskal-Wallis tests followed by pairwise dietary comparisons with results adjusted for multiple comparisons to preserve a nominal type 1 error rate of 5%. Significant pairwise comparisons were reported as $P \leq 0.05$.

Results

The majority (83/120) of cats were pets. The remaining 37 cats were university-owned animals. Age

ranged from 8 months to 16 years (median, 3 years; mean \pm SD, 4.4 ± 3.13 years). Body weight ranged from 2.55 to 8.7 kg (median, 4.51 kg; mean, 4.76 ± 1.33 kg), and BCS ranged from 2.5 to 8 (median, 5.5; mean, 5.6 ± 1.06). Eighteen (15%) cats were considered obese (BCS ≥ 7). Fifty-six cats were neutered males, 29 were spayed females, 7 were sexually intact males, and 28 were sexually intact females. All of the sexually intact cats were university-owned animals. Breeds represented included domestic shorthair ($n = 79$), domestic medium-hair (10), mixed-breed cat (12), domestic longhair (7), Persian (7), Bengal (2), Siamese (1), Ragdoll (1), and Manx (1). The Persian and Bengal cats were part of a university colony, whereas the Siamese, Ragdoll, and Manx were pet cats. Domestic shorthair cats were represented in both university and pet cat populations. There was not a sufficient number of breeds represented to enable assessment of the relationship between breed and plasma amino acid concentrations.

University-owned cats were part of 2 separate colony facilities. The 2 facilities had no blood lines in common. At 1 facility ($n = 13$ cats), there were several sets of siblings and some parent-offspring pairs as well as unrelated cats from which blood samples were collected. At the second facility ($n = 24$ cats), there were siblings, half-siblings, and 1 parent-offspring pair from which blood samples were collected. There were some sibling groups in the pet cats and probably some parent-offspring pairs as well; however, these relationships were harder to assess because parentage information was not collected for the pet cats.

Insufficient blood samples (< 1.5 mL) were obtained from 31 cats; thus, whole blood taurine concentrations were determined for only 89 cats. Similarly, some samples obtained from university-owned cats were not treated with SSA immediately after collection; therefore, cysteine concentrations were determined for only 96 cats. Samples were collected into both heparinized ($n = 54$ samples) and unheparinized (66) syringes prior to being placed in lithium heparin tubes. There was a significant (range of P values, < 0.001 to 0.048) difference between heparinized syringe and unheparinized syringe samples for concentrations of the amino acids arginine, citrulline, glutamic acid, glycine, isoleucine, leucine, methionine, ornithine, threonine, tryptophan, and valine. Mean amino acid concentrations typically were lower in heparinized samples, although this was not the case for all amino acids, and not all concentrations differed significantly.

Increases in degree of lipemia had a significant ($P = 0.008$) positive association with threonine concentrations. Increases in degree of hemolysis had a significant positive association with the concentrations of isoleucine ($P = 0.040$), tryptophan ($P = 0.030$), and valine ($P = 0.021$) and a significant ($P = 0.013$) negative association with glutamic acid concentrations. The majority (17/25) of the amino acids assayed did not have a normal distribution, so nonparametric methods based on percentiles were used to determine the 95% reference intervals (Table 1).

Concentrations of arginine, asparagine, aspartic acid, cysteine, glutamic acid, glycine, hydroxyproline, isoleucine, lysine, ornithine, serine, threonine, trypto-

phan, and valine differed significantly (range of P values, < 0.001 to 0.038) among the 4 sex classifications (sexually intact male, castrated male, sexually intact female, and spayed female). Sexually intact females had higher concentrations of arginine, isoleucine, and valine, compared with the 3 other groups (all P values < 0.001). There were no significant differences between spayed females and castrated males; however, sexually intact females had significantly higher amino acid concentrations of arginine, isoleucine, tryptophan, and valine (range of P values, < 0.001 to 0.038) and significantly lower concentrations of aspartic acid ($P = 0.019$) than sexually intact males. Although there was a significant negative linear relationship between age and amino acid concentration for arginine ($P = 0.019$), glutamic acid ($P = 0.035$), and ornithine ($P = 0.029$), the linear correlation was weak ($R^2 = 0.045$, 0.037 , and 0.040 , respectively). As body weight increased, there was a significant ($P = 0.032$) positive linear relationship for plasma concentrations of histidine, whereas there was a significant (range of P values, < 0.001 to 0.032) negative relationship for concentrations of alanine, arginine, glutamic acid, glycine, hydroxyproline, isoleucine, lysine, ornithine, serine, and valine. Arginine, glutamic acid, glycine, hydroxyproline, isoleucine, lysine, ornithine, serine, and valine concentrations had a significant (range of P values, < 0.001 to 0.049) positive linear relationship with increases in BCS, whereas methionine concentrations had a significant ($P = 0.007$) negative relationship. The linear correlation was weak for concentrations of all amino acids for body weight (range of R^2 , 0.039 to 0.123) and BCS (range of R^2 , 0.033 to 0.139).

Fifty-four (39 dry, 13 canned, and 2 frozen-raw) diets were fed to the cats. Twelve diets were widely available at grocery and discount stores, 12 were veterinary prescription diets, and the other 30 were available from large pet supply chains or specialty stores. The 12 prescription diets included weight management diets ($n = 6$ diets), dental diets (2), renal diets (2), a urinary diet (1), and a gastrointestinal diet (1). Both renal diets were fed in addition to maintenance diets to healthy cats because other cats in the households had renal disease. The urinary diet was fed to a cat without recent or current clinical signs of urinary tract disease. The gastrointestinal diet had been prescribed to treat a cat with diarrhea 6 years prior to the study, and the owner opted to continue feeding it despite resolution of the problem.

University-owned cats were fed 6 diets; 10 cats were the most that were fed one of these diets. Pet cats were fed 48 diets; 13 cats were the most that were fed one of these diets. All the diets used in this study exceeded the NRC recommended allowance for dietary crude protein concentration for adult feline maintenance (5 g/100 kcal)¹⁰ and had passed feeding trials or were formulated to meet Association of American Feed Control Officials minimum nutrient profiles for adult maintenance. All but 7 cats had been fed the same diet or combination of diets for at least 1 month before the study, with many cats being fed the same diet for 1 year or more prior to the study. All 7 cats with a more recent dietary change obtained most of their daily calories from the same diet for at least 1 week before blood samples were collected.

Twenty-three cats were fed specific amounts at each meal, 58 cats were fed ad libitum, and the remaining 39 cats were fed unknown or varying amounts, often because > 1 cat shared a feed bowl in multiple-cat households. Twenty-six of the 120 cats were fed > 1 diet, and many of the owners did not know the amount of each diet fed and sometimes did not know the diet or diets being fed at the time of sample collection. These 26 cats were excluded from analysis of the effects of diet on plasma amino acid and whole blood taurine concentrations.

None of the cats were fed supplemental products. Twenty-eight (23%) cats were fed treats, either commercial treats created for cats or treats in the form of foods consumed by humans. Of these 28 cats, only 9 were reportedly fed treats daily. The remaining 19 cats received treats from several times a week to once a month or less often. For 7 of the 9 cats that received treats daily, the treats did not provide a substantial ($< 10\%$) portion of daily caloric intake. The other 2 cats that received treats daily obtained approximately 13% of their daily calories from treats. Because of the inconsistency of treat administration and the low percentage of daily calories provided by treats, this information was not included in the analysis to investigate potential associations between dietary protein and ingredients and plasma amino acid and whole blood taurine concentrations.

Data from the 94 cats eating only 1 diet were used to determine the relationship between diet and plasma amino acid concentrations. Of the 30 diets fed to this group of cats, 26 were dry expanded kibble, 2 were frozen-raw, and 2 were canned diets. Seven diets (6 dry and 1 canned) were veterinary prescription diets. Nineteen of the 94 cats received treats, with only 6 of the 19 cats receiving treats daily. Two cats obtained approximately 13% of their daily calories from commercial treats. Twenty-five of the 30 diets were supplemented with taurine, 14 were supplemented with methionine, 9 were supplemented with lysine, and 1 was supplemented with tryptophan.

Because of a lack of specific food intake information, protein intake could not be determined for most of the cats. Therefore, the protein content of the diet on a caloric basis (rather than the actual intake of each cat) was used for analysis. Dietary protein concentration ranged from 7.3 to 23.1 g/100 kcal (median, 9.32 g/kcal ; mean \pm SEM, $11.31 \pm 5.19 \text{ g/kcal}$), with all but 3 diets containing between 7.3 and 12.0 g/100 kcal (the protein concentration for those 3 diets ranged from 18.6 to 23.1 g/100 kcal).

Protein concentration of the diet had a significant (range of P values, < 0.001 to 0.030) effect on amino acid concentrations for 15 amino acids. There were positive correlations between dietary protein concentration and plasma concentrations of arginine, glutamic acid, glycine, hydroxyproline, isoleucine, lysine, ornithine, serine, and valine, whereas plasma concentrations of aspartic acid, histidine, methionine, phenylalanine, proline, and taurine were negatively correlated with dietary protein concentration. However, none of these relationships had a strong linear correlation (range of R^2 , 0.043 to 0.403). When only diets with $\leq 12 \text{ g}$ of protein/100 kcal were examined, there were no significant

Table 1—Plasma amino acid and whole blood taurine concentrations in 120 adult cats eating commercially prepared diets.

Amino acid	95% reference interval (nmol/mL)	Median (nmol/mL)	Mean (nmol/mL)	SD	SEM	P value for test of normality
Alanine	270–925	425	462	160	15	< 0.001*
Arginine	46–200	84	95	38	3	< 0.001*
Asparagine	52–143	88	91	25	2	0.099
Aspartic acid	8–67	26	28	12	1	< 0.001*
Citrulline	9–30	17	18	6	1	0.031*
Cysteine†	12–42	24	26	9	1	< 0.001*
Glutamine	430–953	648	664	134	12	0.129
Glutamic acid	25–160	62	73	38	4	< 0.001*
Glycine	217–975	323	398	279	26	< 0.001*
Histidine	68–164	115	116	24	2	0.817
Hydroxyproline	21–145	60	63	31	3	< 0.001*
Isoleucine	30–141	55	63	29	3	< 0.001*
Leucine	78–278	135	146	49	5	< 0.001*
Lysine	44–282	89	108	61	6	< 0.001*
Methionine	20–128	61	64	28	3	0.003*
Ornithine	7–55	17	21	12	1	< 0.001*
Phenylalanine	38–103	71	70	15	1	0.615
Proline	104–423	248	258	76	7	0.572
Serine	92–413	159	179	85	8	< 0.001*
Taurine	37–252	108	118	55	5	< 0.001*
Whole blood taurine‡	275–701	455	457	103	11	0.154
Threonine	77–287	169	173	54	5	0.244
Tryptophan	30–104	57	60	17	2	0.003*
Tyrosine	31–86	56	57	15	1	0.236
Valine	85–302	148	164	62	6	< 0.001*

*Values of $P \leq 0.05$ were not compatible with a normal distribution; nonparametric methods based on percentiles were used to determine all 95% reference intervals. †Represents results for 96 cats. ‡Represents results for 89 cats.

associations between dietary protein concentration and plasma amino acid concentrations.

Supplementation of diets with taurine and methionine was significantly ($P = 0.007$ and $P = 0.015$, respectively) correlated with higher plasma concentrations of these amino acids. However, taurine supplementation was not significantly ($P = 0.360$) correlated with whole blood taurine concentrations, and lysine supplementation was not significantly ($P = 0.440$) correlated with plasma lysine concentrations. An analysis of plasma tryptophan concentrations was not conducted because only 1 diet was supplemented with tryptophan.

Seventy-four cats were fed diets that contained an animal-source product as the first ingredient listed. The remaining 20 cats were fed diets with a plant-source product as the first ingredient listed. The second ingredient listed was of plant origin in diets fed to 57 cats, whereas the second ingredient listed was of animal origin in diets fed to 37 cats. Twenty cats were fed diets that had animal products as the first 2 ingredients listed.

Regardless of the first 4 dietary ingredients listed, there were no significant associations between ingredients and plasma concentrations of aspartic acid, citrulline, cysteine, hydroxyproline, tryptophan, and tyrosine or whole blood concentrations of taurine. There were significant correlations with some amino acid concentrations and dietary ingredients, but they were not consistent throughout the ingredient list. For example, plasma concentrations of arginine, asparagine, glutamine, isoleucine, lysine, ornithine, proline, and valine were significantly (all P values, < 0.001) lower

when chicken by-product meal was the first ingredient listed than when corn was the first ingredient listed. However, when chicken by-product meal was the second ingredient listed, plasma concentrations of histidine, leucine, lysine, ornithine, and proline were all significantly (all P values, < 0.001) higher than when the second ingredient listed was corn.

When the first ingredients listed were divided into plant-source versus animal-source products, there were significant (range of P values, < 0.001 to 0.031) differences in plasma concentrations of alanine, asparagine, aspartic acid, glutamine, histidine, leucine, methionine, phenylalanine, proline, taurine, threonine, and tyrosine. All of these amino acid concentrations were higher when the first ingredient listed was a plant-source product than when the first ingredient listed was an animal-source product. When the second ingredient listed was an animal-source product, as opposed to a plant-source product, plasma concentrations of alanine, arginine, glutamine, glutamic acid, glycine, hydroxyproline, isoleucine, leucine, lysine, ornithine, proline, serine, threonine, and valine were significantly (range of P values, < 0.001 to 0.023) higher.

Discussion

The objective of the study reported here was to develop reference ranges for plasma concentrations of amino acids and whole blood concentrations of taurine in healthy cats eating commercial diets and to determine the effect of age, sex, body weight, BCS, dietary protein, and dietary ingredients on these findings. A

power calculation determined that 120 animals were required to establish reliable reference intervals.³¹ To our knowledge, we compiled data on amino acid concentrations from the largest population of adult cats eating commercial diets that has been reported to date (120 cats for all amino acids, except for whole blood taurine [89 cats] and cysteine [96 cats]).

This study population, although not an exact representation of the general cat population, is likely a close enough representation for these reference ranges to be meaningful. Twelve (10%) cats of the study population were purebred cats, which corresponded to the percentage of purebred cats in the general population in another report.³² Unfortunately, these 12 cats did not represent a sufficient number of cats to assess differences in amino acid concentrations among breeds. The percentage of overweight and obese cats (BCS ≥ 6) in the study was 41% (49/120), which is higher than the 35% reported for the general cat population in another study.³³ The mean BCS was 5.6 for the cats in this study; only 18 of 120 (15%) cats had a BCS ≥ 7 . It is possible that the subjective nature of assigning a BCS influences the proportion of overweight and obese cats reported by different sources.³⁴ Although some associations between body weight or BCS and plasma amino acid concentrations were significant, linear correlations were weak and no additional relationships could be discerned from the data. This finding was consistent with reported plasma and whole blood taurine concentrations in dogs²¹ and plasma amino acid concentrations in adult cats.¹¹

Castrated male cats outnumbered spayed female cats in a ratio of almost 2:1 in the study population, despite results of a recent survey³² in which it was reported that female cats were kept as pets more often than are male cats. Because only pet cats with amiable dispositions were used in our study, it is possible that more female than male cats were adverse to procedures involved with collection of blood samples. Alternatively, this owner population may have specifically sought out male cats over female cats for other reasons. University-owned cats were included in the study population to introduce sexually intact cats into the study population because all the pet cats in the study population were spayed or neutered, whereas 87% of the overall pet cat population are spayed or neutered.³² With the inclusion of the university-owned cats, 85 of 120 (71%) cats in the study population were spayed or neutered.

Significant differences among the 4 sex classifications were detected for concentrations of multiple amino acids. It was interesting that there were no significant differences between spayed females and neutered males, but there were differences between sexually intact males and females. These results suggest that hormonal differences between the sexes are likely affecting plasma amino acid concentrations. Studies in other species have also revealed an association between sex and plasma or serum amino acid concentrations. A study³⁵ in humans revealed that women have lower serum concentrations of proline, leucine, isoleucine, and tyrosine, compared with concentrations in men. In another study,³⁶ it was reported that elderly women have lower serum concentrations of essential amino ac-

ids, compared with concentrations in elderly men. A similar sex effect has been found in rats, with female rats having lower plasma concentrations of almost all amino acids than the concentrations in male rats.³⁷ It is unclear in these studies as to the factors responsible for the sex differences because each study examined a different population and not all populations involved hormonally active individuals. Further assessment of cats in all 4 sex classifications that are eating the same diet would be necessary to further clarify the true effect of sex and neuter status.

Although there was a significant relationship between age and amino acid concentration for several amino acids, the linear correlations were weak. In contrast, investigators in a study⁶ of adult cats found an inverse relationship between plasma taurine concentration and age, but they did not examine all of the amino acids or the association with diet. However, that result was detected in a population of cats older than the population of cats in our study (mean ages, 8.3 and 8.9 years vs 4.4 years for the study reported here). Additionally, that study⁶ was designed to assess plasma taurine concentrations in cats with heart disease, and it is possible that the correlation with age was more related to underlying disease than to age of the cats.

Only adult cats were used in the aforementioned study⁶ and the study reported here. It is likely that actively growing kittens have plasma amino acid profiles that differ substantially from those of adult cats. Data from a study¹³ in kittens indicated higher mean plasma concentrations of all amino acids, except citrulline, compared with the plasma concentration in our study population of adult cats. Investigators in another study³⁸ reported higher mean plasma concentrations for alanine, arginine, asparagine, cysteine, glutamic acid, glycine, histidine, lysine, methionine, ornithine, proline, threonine, and tryptophan, whereas the mean plasma concentrations of glutamine, isoleucine, phenylalanine, and tyrosine were lower, compared with the concentrations determined in our study. Mean concentrations of leucine and valine in that study³⁸ were similar to those in our study. However, an effect of diet cannot be ruled out because both of those previous studies^{13,38} used animals fed purified diets. Because both of those studies used the same analytic methods as the study reported here, it is unlikely that this factor accounts for the differences observed.

Amino acid concentrations typically were lower for most amino acids in samples collected in heparinized syringes, compared with concentrations for samples collected in unheparinized syringes, which suggested that dilution of the samples may have been responsible for the difference. Because variable amounts of blood were collected from the cats, the effect of dilution was not consistent for all samples and could not be quantitatively tested. Although some of these concentration differences were significant, they were of small magnitude and unlikely to have a major clinical impact. It was unlikely to be a population bias contributing to these results because once heparin became unavailable, both cat populations (pet cats and university-owned cats) were affected equally. Amino acid concentrations were assayed in plasma rather than serum; thus, it was important that blood samples did not

clot prior to analysis. Therefore, the authors recommend the use of heparinized syringes to ensure that a plasma sample is obtained.

The effect of sample hemolysis on plasma amino acid concentrations in this study likely reflected the higher concentrations of amino acids in RBCs, compared with concentrations in plasma.⁹ It is established that conditions that alter the concentration of cellular components in the blood affect plasma amino acid concentrations.³⁹ The finding that glutamic acid concentration was negatively correlated with hemolysis was unexpected because glutamic acid concentrations are higher in RBCs than in plasma.⁹ It is possible that this result may have been artifactual. Because of the variability in plasma amino acid concentrations and the few moderately (6/94 [6%]) and severely (2/94 [2%]) hemolyzed samples, the effects of this sampling artifact could not be clearly defined. Additionally, the assessment of both hemolysis and lipemia in this study was subjective. Further investigation of the impact of hemolysis and lipemia via objective measurements of these changes (such as absorbance data from spectrophotometry) is needed.

Treats composed a small percentage of the daily caloric intake of the cats; thus, they were not included in the calculations of dietary protein or the ingredient comparisons. Twenty-three percent of the study cats received treats at least monthly. It has been reported⁴⁰ that approximately 26% of pet cats receive treats daily and 44% receive treats at least once per week.

It was impossible to calculate protein intake for most of the cats fed *ad libitum* or fed vague or varying amounts of food. In addition, many cats were fed > 1 diet. For these reasons, dietary protein concentration (rather than actual intake) was assessed, and only cats fed 1 diet were included in the analysis. Although the dietary protein concentration was examined on a caloric basis, it is still possible that cats may have had higher or lower energy requirements than expected and thus were consuming more or less protein than predicted. All of the diets exceeded NRC recommendations for feline maintenance of 5 g/100 kcal of protein, with protein concentrations ranging from 7.3 to 23.1 g/100 kcal. All diets, except for 3, provided protein concentrations of ≤ 12.0 g/100 kcal. Although dietary protein concentration was significantly correlated with plasma amino acid concentrations for 15 amino acids, these were weak linear correlations. When the data for the 3 diets containing the highest concentrations of protein (18.6 to 23.1 g/100 kcal) were excluded, the correlations were no longer significant.

The essential amino acid requirements for cats were originally determined with growth response curves as well as by comparing plasma amino acid concentrations obtained when feeding diets containing varying concentrations of the amino acid of interest.¹⁰ In other species, it has been determined that plasma amino acid concentrations remain low until the requirement is met and then increase markedly.⁴¹ Studies^{42,e} have revealed that when lysine is provided in excess of dietary requirements in cats, plasma amino acid concentrations do not reliably predict the relative proportion of the excess. Data from these studies^{41,e} and the study reported

here suggest that diets providing amino acids and crude protein concentrations in excess of the recommended allowances for adult feline maintenance established by the NRC should not necessarily be expected to cause higher plasma amino acid concentrations than diets providing amino acids and crude protein concentrations closer to the minimal requirements. This effect may be especially relevant in cats consuming commercially available foods, compared with cats consuming purified diets.

The relationships of ingredients to amino acid concentrations were unexpected. In this study, amino acid concentrations, including many essential amino acids, were lower in cats consuming diets that contained animal protein as the first ingredient listed. Although plant proteins are poorer sources of taurine and other sulfur-containing amino acids, compared with many animal proteins, cats consuming diets containing a plant-source ingredient (usually a grain) as the first ingredient listed had higher mean taurine concentrations than cats consuming diets with an animal protein as the first ingredient listed. It is likely that other factors were involved because diets that contained higher proportions of protein from plant sources may be more consistently and aggressively supplemented with taurine. The concentrations of supplemental amino acids are not required to be reported on the label of feline diets, which makes it difficult to compare diets.

Taurine and methionine supplementation of diets was correlated with higher plasma concentrations of these amino acids. However, taurine supplementation was not correlated with whole blood taurine concentrations. This finding is not surprising because plasma taurine concentrations are thought to be more indicative of recent meals than are whole blood taurine concentrations.²⁶

Lysine supplementation was not correlated with plasma lysine concentrations. The diets with added lysine may have been sufficiently limiting in this amino acid before supplementation such that additional lysine only brought them up to the concentrations in the unsupplemented diets. The lack of correlation between lysine supplementation and plasma lysine concentrations is likely to be a dietary factor rather than a biological factor unique to the cats eating the supplemented diets.

Whole blood taurine concentration is considered to be a more accurate measure of taurine status than is plasma taurine concentration⁹ in cats and reflects skeletal muscle concentrations more accurately than do plasma taurine concentrations.⁴³ In the study reported here, 3 cats had plasma taurine concentrations that would be considered a risk factor for development of dilated cardiomyopathy (< 40 nmol/mL).¹⁰ However, whole blood taurine concentrations in these cats were considered to be reflective of normal physiologic taurine status (> 200 nmol/mL).¹⁰ It was later determined that 2 of the 3 cats had been placed under substantial caloric restriction (relative to calculated energy needs) by their owner in an attempt to maintain a lean body condition while feeding a diet designed for adult cats with normal energy requirements. Because nutrient requirements are established with the assumption of av-

erage energy needs, animals with lower than expected calorie requirements will consume less total nutrients from a diet designed to support a typical animal. This likely explains the low plasma taurine concentrations determined in these 2 cats. The findings in this study support the contention that whole blood taurine concentrations should always be assessed in addition to plasma taurine concentrations to determine true taurine status.

Alterations in plasma amino acids attributable to differences in dietary ingredients have been reported. Because of the association of dilated cardiomyopathy with taurine deficiency in dogs and cats, most studies have concentrated on this amino acid. The substitution of rice bran⁴⁴ and soy protein²⁹ for corn starch and casein in purified diets, respectively, can decrease plasma taurine concentrations in cats. In another study,²¹ diets containing whole grain brown rice as the first plant ingredient listed were associated with lower whole blood taurine concentrations in dogs, compared with results for diets with ground corn as the first plant ingredient listed, whereas diets containing lamb meal and rice were associated with lower mean whole blood taurine concentrations than were diets containing other combinations of animal and plant ingredients. In the study reported here, we found no correlation between any of the first 4 ingredients listed and whole blood taurine or plasma cysteine concentrations.

In our study, we found that feeding taurine-supplemented diets resulted in significantly higher plasma taurine concentrations, independent of other dietary ingredients. However, dietary ingredients still had an impact on plasma taurine concentration. Plasma taurine concentrations were significantly higher when the first ingredient listed was corn instead of beef or chicken; all diets, except for 1, in which corn was the first ingredient listed were supplemented with taurine. However, plasma taurine concentrations were significantly lower when the second ingredient listed was rice or beef liver rather than chicken by-product meal, despite the fact that all of the diets, except for 1, with rice or beef liver as the second ingredient listed were supplemented with taurine. This discrepancy was likely attributable to the contribution of ingredient interactions and, possibly, other confounding factors such as variable amounts of supplemental taurine in the diets or variable caloric intake by the cats consuming them. Differences in associations between ingredients and amino acid concentrations between this study and the data reported for a study²¹ in dogs may be attributable to differences in the metabolism of sulfur-containing amino acids in cats, compared with metabolism in dogs, or differences in study design. It is likely that diet and population factors also may explain the differences between the studies in cats that examined rice bran⁴⁴ and soy protein²⁹ and plasma taurine concentrations because those studies were performed under more controlled circumstances and used purified diets.

It is difficult to assess the ingredients in a commercial diet that provide the greatest proportions of nutrients because ingredients are listed by order of weight and can be further subdivided into constituent parts. Because of differences in moisture, a diet that has

chicken as the first ingredient listed may provide less chicken protein than a diet that has chicken meal as the first ingredient listed. Similarly, an ingredient such as rice may contribute a substantial proportion of the nutrients to a diet despite being listed later in the ingredient list because this component is low in moisture and could appear as rice, brewer's rice, and rice flour in the same diet. Currently, manufacturers are not required to list the amounts of each ingredient in a diet, and this information is generally considered to be proprietary. In our study, the relationships between plasma amino acid concentrations and diet were difficult to interpret because of the number of diets, ingredients, and amino acids assessed. Many of the relationships were inconsistent with results reported in other studies or expected nutrient amounts of certain ingredients. Moreover, the results became more difficult to interpret as ingredients farther down the list (ingredients 3 through 7) were analyzed. This study illustrated the limitations of assessing the nutritional adequacy of diets by use of criteria such as the ingredient list. It is the authors' experience that diets are often assessed solely on the basis of ingredient lists, disregarding the legal definitions for ingredients as well as how ingredient lists are developed by manufacturers within the current regulatory framework.

The study reported here was the first large study to determine plasma amino acid concentrations in cats eating commercial diets. Despite some limitations, the plasma amino acid and whole blood taurine concentrations reported here are likely representative of the general pet cat population. This information will be of value in clinical assessment of patients and should encourage further research into alterations in amino acid concentrations in many disease processes and conditions in cats.

- a. Biochrom 30 amino acid analyzer, Biochrom Ltd, Cambridge, England.
- b. MedCalc 10.0.2.0, MedCalc Software bvba, Mariakerke, Belgium.
- c. StatXact 8.0, Cytel Software Corp, Cambridge, Mass.
- d. BMDP PC90, BMDP Statistical Software Inc, Los Angeles, Calif.
- e. Larsen JA, Fascetti AJ, Calvert CC, et al. Department of Molecular Biosciences, School of Veterinary Medicine, University of California, Davis, Calif: Unpublished data, 2009.

References

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Report Details - EON-380708

ICSR:	2063115		
Type Of Submission:	Initial		
Report Version:	FPSR.FDA.PETF.V.V1		
Type Of Report:	Adverse Event (a symptom, reaction or disease associated with the product)		
Reporting Type:	Voluntary		
Report Submission Date:	2019-02-24 17:00:13 EST		
Reported Problem:	Problem Description:	DCM and CHF diagnosed [B6] Eating multiple BEG diets Taurine and troponin pending Dog changed to Purina HA vegetarian dry while in hospital and owner has continued this. Will try switching to Pro Plan Sensitive Skin and Stomach Salmon when bag of HA runs out. If she tolerates that, will stay on it. If not, will switch back to HA since she's done well on that.	
	Date Problem Started:	[B6]	
	Concurrent Medical Problem:	Yes	
	Pre Existing Conditions:	Diarrhea would develop 2-3 weeks after starting a new food. Owner rotated foods to try to avoid this.	
	Outcome to Date:	Stable	
Product Information:	Product Name:	Acana, Natural Balance, Petcurean (see diet history for additional details)	
	Product Type:	Pet Food	
	Lot Number:		
	Package Type:	BAG	
	Product Use Information:	Description:	Please see diet history for more info ("Natural Products" written on diet history form is "Natural Balance"
	Manufacturer /Distributor Information:		
	Purchase Location Information:		
Animal Information:	Name:	[B6]	
	Type Of Species:	Dog	
	Type Of Breed:	Terrier - Bull - American Pit	
	Gender:	Female	
	Reproductive Status:	Neutered	
	Weight:	18 Kilogram	
	Age:	[B6] Years	
	Assessment of Prior Health:	Excellent	
	Number of Animals Given the Product:	1	
	Number of Animals Reacted:	1	
	Owner Information:	Owner Information provided:	Yes
		Contact:	Name: [B6] Phone: [B6] Email: [B6]
		Address:	[B6] United States
	Healthcare Professional Information:	Practice Name:	Tufts Cummings School of Veterinary Medicine

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Client:

Address:

B6

All Medical Records

Patient:

B6

Breed:

Pit Bull

DOB:

B6

Species: Canine

Sex: Female
(Spayed)

Home Phone:

B6

Work Phone: () -

Cell Phone: () -

Referring Information

B6

Client:

B6

Patient:

B6

Initial Complaint:

Emergency

SOAP Text

B6

9:00AM -

B6

Subjective

NEW VISIT (ER)

Doctor:

B6

Student:

B6

V'20

Presenting complaint: CHF

Referral visit? integrative animal health in bolton

Diagnostics completed prior to visit: rads

Chest x-rays (at rDVM) - in ER email

HISTORY:

Signalment: 5yo FS Pitbull

Current history:

Coughing 2-3 weeks ago - after physical exercise gotten worse after any exercise, hacking some fluid a little productive, labored breathing, low energy. still eating/drinking, normal bathroom, no v/d. lost weight, looking skinny.

Prior medical history: allergies

Current medications: none

Diet: dry. 2 cups a day (o unsure exactly which diet - rotates through 4 different types of food)

Vaccination status/flea & tick preventative use: UTD, no heartworm preventative or flea/tick

Client: **B6**
Patient: **B6**

Travel history: none

EXAM:

B6

ASSESSMENT:

A1: Congestive heart failure r/o secondary to DCM vs other

PLAN:

Diagnostics:

B6

- Chest x-rays (at rDVM) - in ER email
 - Diffuse interstitial pattern bilaterally, pulmonary vessels not easily visible. Severe cardiomegaly with left mainstem bronchi compression and trachea is dorsally deviated.

Treatments/monitoring:

B6

- Diet: HA or ZD only

Client communication:

B6

Deposit & estimate status: **B6**

Client: B6
Patient: B6

Resuscitation code (if admitting to ICU): yellow

SOAP approved (DVM to sign): B6 DVM

SOAP Text B6 9:49AM - B6

DUPLICATE. IGNORE.

SOAP Text B6 10:25AM - B6

B6

Signalment: 5yo FS Pitbull presenting for biventricular heart failure due to DCM, respiratory distress. Day 1 of hospitalization

Presenting history:

Coughing 2-3 weeks ago - after physical exercise gotten worse after any exercise, hacking some fluid a little productive, labored breathing, low energy. still eating/drinking, normal bathroom, no v/d. lost weight, looking skinny to the owner.

Prior medical history: allergies

Current medications: none

Diet: dry. 2 cups a day (o unsure exactly which diet - rotates through 4 different types of food)- brought in samples to fill out forms for the diet study she is enrolled in.

Vaccination status/flea & tick preventative use: UTD, no heartworm preventative or flea/tick

Travel history: none

EXAM:

B6

ASSESSMENT:

A1: Congestive heart failure r/o secondary to DCM vs other

Client: B6

Patient: B6

Diagnostics performed B6

B6

- Chest x-rays (at rDVM) - in ER email

- Diffuse interstitial pattern bilaterally, pulmonary vessels not easily visible. Severe cardiomegaly with left mainstem bronchi compression and trachea is dorsally deviated.

Diagnostics performed B6

B6

PLAN:

Treatments/monitoring:

B6

- Diet: HA or ZD only

B6

-recheck Echo for diet study

-recheck chemistry

-continue in diet study

Deposit & estimate status B6

Resuscitation code (if admitting to ICU): yellow

SOAP approved (DVM to sign): B6 DVM

SOAP Text B6 11:55AM - B6

Signalment: 5yo FS Pitbull presenting for biventricular heart failure due to DCM, respiratory distress. Day 1 of hospitalization

Presenting history:

Coughing 2-3 weeks ago - after physical exercise gotten worse after any exercise, hacking some fluid a little productive, labored breathing, low energy. still eating/drinking, normal bathroom, no v/d. lost weight, looking skinny to the owner.

Prior medical history: allergies

Current medications: none

Diet: dry. 2 cups a day (o unsure exactly which diet - rotates through 4 different types of food)- brought in samples to fill out forms for the diet study she is enrolled in.

Vaccination status/flea & tick preventative use: UTD, no heartworm preventative or flea/tick

Travel history: none

Overnight update:

Very bright, RR 24-36, eating well and passing urine frequently.

Subjective

Client: B6
Patient: B6

EXAM, GENERAL

B6

ASSESSMENT:

A1: Dilated Cardiomyopathy

Diagnostics performed B6

B6

- Chest x-rays (at rDVM) - in ER email
 - Diffuse interstitial pattern bilaterally, pulmonary vessels not easily visible. Severe cardiomegaly with left mainstem bronchi compression and trachea is dorsally deviated.

Diagnostics performed B6

B6

Plan:

- NOVA
- TGH
- Recheckk with cardio in one week.

SOAP completed by: B6 BVSc

Initial Complaint:

Recheck - B6 - DCM Study

Client: [B6]
Patient: [B6]

SOAP Text [B6] 1:53PM [B6]

Disposition/Recommendations

Client:

B6

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:	Pit Bull
Sex:	Female (Spayed)
Age:	B6 Years Old

Lab Results Report

Nova Full Panel-ICU		B6	9:28:25 AM	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	room air)	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 **B6** 9:36:03 AM Accession ID: **B6**

Test	Results	Reference Range	Units
Blood Glucose (Glucometer) - FHSA	B6	0 - 0	mg/dl

Nova Full Panel-ICU **B6** 9:56:38 AM 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 **B6** 10:12:18 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
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

Nova Full Panel-ICU **B6** 9:19:25 AM Accession ID: **B6**

Test	Results	Reference Range	Units
SO2%	B6	94 - 100	%
HCT (POC)		38 - 48	%

Client: **B6**
 Patient: **B6**

HB (POC)	B6	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
BEecf		0 - 0	mmol/L
BEb		0 - 0	mmol/L
A		0 - 0	mmHg
NOVA SAMPLE		0 - 0	
FiO2		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 **B6** 9:27:23 AM Accession ID: **B6**

Test	Results	Reference Range	Units
TS (FHSA)	B6	0 - 0	g/dl
PCV **	B6	0 - 0	%
TS (FHSA)	B6	0 - 0	g/dl



10/46

B6

B6

Printed Sunday, February 24, 2019

Vitals Results

B6	9:09:11 AM	Weight (kg)	B6
	9:09:38 AM	Notes	
	9:10:28 AM	Lasix treatment note	
	9:45:06 AM	Lasix treatment note	
	10:45:50 AM	Lasix treatment note	

Client: B6
Patient: B6

Vitals Results

11:21:04 AM	FiO2 (%)
11:21:11 AM	Respiratory Rate
11:21:41 AM	Nursing note
12:19:43 PM	Nursing note
12:37:05 PM	Quantify IV Fluids (CRI) in mls
12:37:06 PM	Catheter Assessment
12:37:44 PM	FiO2 (%)
12:38:25 PM	Respiratory Rate
12:39:49 PM	Heart Rate (/min)
1:47:10 PM	Eliminations
1:48:12 PM	FiO2 (%)
2:01:58 PM	FiO2 (%)
2:02:58 PM	Heart Rate (/min)
2:06:40 PM	Respiratory Rate
2:07:31 PM	Quantify IV Fluids (CRI) in mls
2:07:32 PM	Catheter Assessment
2:11:44 PM	Lasix treatment note
3:19:35 PM	Nursing note
3:20:12 PM	Respiratory Rate
3:20:33 PM	FiO2 (%)
3:20:55 PM	Quantify IV Fluids (CRI) in mls
3:45:02 PM	Quantify IV Fluids (CRI) in mls
3:45:03 PM	Catheter Assessment
4:07:19 PM	FiO2 (%)
4:07:46 PM	Respiratory Rate
4:09:20 PM	Eliminations
4:18:29 PM	Heart Rate (/min)
4:18:40 PM	Quantify IV Fluids (CRI) in mls
4:18:41 PM	Catheter Assessment
5:12:04 PM	Respiratory Rate
5:12:14 PM	FiO2 (%)
5:13:48 PM	Eliminations
5:17:48 PM	Amount eaten
5:19:29 PM	Heart Rate (/min)
5:19:47 PM	FiO2 (%)
5:26:16 PM	Lasix treatment note
5:47:32 PM	Respiratory Rate

B6

B6

Client: B6
Patient: B6

Vitals Results

5:47:46 PM	Quantify IV Fluids (CRI) in mls
5:47:47 PM	Catheter Assessment
6:01:17 PM	Eliminations
6:54:17 PM	FiO2 (%)
6:54:24 PM	Respiratory Rate
7:11:55 PM	Heart Rate (/min)
7:12:08 PM	Temperature (F)
7:44:34 PM	FiO2 (%)
7:44:43 PM	Quantify IV Fluids (CRI) in mls
7:44:44 PM	Catheter Assessment
7:45:08 PM	Respiratory Rate
9:03:32 PM	FiO2 (%)
9:03:41 PM	Respiratory Rate
9:17:37 PM	Weight (kg)
9:18:17 PM	Heart Rate (/min)
9:19:05 PM	Quantify IV Fluids (CRI) in mls
9:19:06 PM	Catheter Assessment
9:19:42 PM	Eliminations
9:21:04 PM	Lasix treatment note
9:45:41 PM	Respiratory Rate
9:45:54 PM	FiO2 (%)
10:49:36 PM	Respiratory Rate
10:50:01 PM	FiO2 (%)
11:31:31 PM	Quantify IV Fluids (CRI) in mls
11:31:32 PM	Catheter Assessment
11:32:09 PM	Heart Rate (/min)
11:46:46 PM	Respiratory Rate
11:47:01 PM	FiO2 (%)
12:46:34 AM	FiO2 (%)
12:46:44 AM	Respiratory Rate
1:07:50 AM	Eliminations
1:38:01 AM	Quantify IV Fluids (CRI) in mls
1:38:02 AM	Catheter Assessment
1:39:26 AM	Heart Rate (/min)
1:56:06 AM	FiO2 (%)
1:56:16 AM	Respiratory Rate
3:06:11 AM	FiO2 (%)
3:06:25 AM	Respiratory Rate
3:12:19 AM	Lasix treatment note
3:12:37 AM	Quantify IV Fluids (CRI) in mls
3:12:38 AM	Catheter Assessment

B6

B6

Client: B6
Patient: B6

Vitals Results

B6	4:06:40 AM	Respiratory Rate	B6
	4:07:00 AM	FiO2 (%)	
	4:07:08 AM	Heart Rate (/min)	
	4:49:25 AM	FiO2 (%)	
	4:49:37 AM	Respiratory Rate	
	4:52:42 AM	Eliminations	
	4:59:34 AM	Amount eaten	
	5:24:06 AM	Nursing note	
	5:24:55 AM	Heart Rate (/min)	
	5:45:41 AM	Respiratory Rate	
	5:45:53 AM	FiO2 (%)	
	6:44:05 AM	FiO2 (%)	
	6:44:44 AM	Respiratory Rate	
	7:57:10 AM	Respiratory Rate	
	7:57:26 AM	FiO2 (%)	
	7:59:14 AM	Nursing note	
	8:02:34 AM	Heart Rate (/min)	
	8:05:21 AM	Temperature (F)	
	8:08:24 AM	Lasix treatment note	
	8:14:38 AM	Weight (kg)	
	8:16:10 AM	Eliminations	
	9:02:29 AM	FiO2 (%)	
	9:03:17 AM	Respiratory Rate	
	10:02:20 AM	FiO2 (%)	
	10:04:29 AM	Heart Rate (/min)	
	10:08:31 AM	Respiratory Rate	
	10:59:22 AM	FiO2 (%)	
	10:59:52 AM	Respiratory Rate	
	11:47:25 AM	FiO2 (%)	
	11:47:53 AM	Respiratory Rate	
	11:53:10 AM	Heart Rate (/min)	
	11:53:48 AM	Eliminations	
	12:59:52 PM	FiO2 (%)	
	1:00:37 PM	Respiratory Rate	
	2:17:38 PM	Respiratory Rate	
	2:17:51 PM	Heart Rate (/min)	
	2:22:20 PM	Lasix treatment note	
	2:59:31 PM	Respiratory Rate	
	3:30:08 PM	Heart Rate (/min)	
	3:52:22 PM	Respiratory Rate	
	4:58:59 PM	Respiratory Rate	

Client: B6
Patient: B6

Vitals Results

B6	5:16:42 PM	Amount eaten
	5:17:09 PM	Eliminations
	5:28:18 PM	Heart Rate (/min)
	6:03:04 PM	Respiratory Rate
	6:54:20 PM	Respiratory Rate
	6:56:33 PM	Weight (kg)
	7:20:10 PM	Temperature (F)
	7:20:22 PM	Heart Rate (/min)
	7:56:01 PM	Respiratory Rate
	8:17:54 PM	Eliminations
	9:00:37 PM	Respiratory Rate
	9:15:46 PM	Heart Rate (/min)
	9:41:52 PM	Respiratory Rate
	9:43:34 PM	Lasix treatment note
	10:40:52 PM	Respiratory Rate
	11:31:23 PM	Heart Rate (/min)
	11:31:28 PM	Respiratory Rate
	12:28:12 AM	Respiratory Rate
	1:05:10 AM	Eliminations
	1:12:38 AM	Heart Rate (/min)
	1:12:45 AM	Respiratory Rate
	2:47:00 AM	Respiratory Rate
	3:16:57 AM	Heart Rate (/min)
	3:37:24 AM	Respiratory Rate
	4:23:24 AM	Respiratory Rate
	5:36:11 AM	Amount eaten
	5:36:20 AM	Heart Rate (/min)
	5:36:27 AM	Respiratory Rate
	5:40:28 AM	Lasix treatment note
	5:59:29 AM	Eliminations
	6:21:11 AM	Eliminations
	6:51:01 AM	Respiratory Rate
	7:42:21 AM	Weight (kg)
	8:08:18 AM	Temperature (F)
	8:08:28 AM	Respiratory Rate
	8:08:42 AM	Heart Rate (/min)
	9:06:23 AM	Eliminations
	9:07:04 AM	Respiratory Rate

B6

Client: **B6**
Patient:

Vitals Results

B6	9:20:15 AM	Catheter Assessment	B6
	10:02:30 AM	Heart Rate (/min)	
	10:02:36 AM	Respiratory Rate	
	10:02:52 AM	Eliminations	
	11:09:18 AM	Respiratory Rate	
	12:17:30 PM	Respiratory Rate	
	12:17:40 PM	Heart Rate (/min)	
	12:17:48 PM	Eliminations	
	1:05:31 PM	Respiratory Rate	
	1:36:34 PM	Catheter Assessment	
	1:36:42 PM	Respiratory Rate	
	1:36:58 PM	Heart Rate (/min)	
	1:25:45 PM	Weight (kg)	
	1:53:45 PM	Lasix treatment note	

Patient History

B6	09:09 AM	Vitals	B6
	09:09 AM	Vitals	
	09:09 AM	Purchase	
	09:10 AM	Purchase	
	09:10 AM	Purchase	
	09:10 AM	Vitals	
	09:28 AM	Purchase	
	09:36 AM	Labwork	
	09:45 AM	Vitals	
	09:55 AM	Treatment	
	09:56 AM	Labwork	
	09:57 AM	Treatment	
	10:04 AM	Prescription	
	10:08 AM	Prescription	
	10:45 AM	Vitals	
	10:55 AM	Treatment	
	11:21 AM	Treatment	
	11:21 AM	Vitals	
	11:21 AM	Treatment	
	11:21 AM	Vitals	
	11:21 AM	Vitals	
	11:23 AM	Purchase	
	11:23 AM	Purchase	

Client: **B6**
Patient: **B6**

Patient History

B6	11:42 AM	UserForm	B6
	11:54 AM	Treatment	
	11:56 AM	Purchase	
	11:56 AM	Purchase	
	12:19 PM	Vitals	
	12:37 PM	Treatment	
	12:37 PM	Vitals	
	12:37 PM	Vitals	
	12:37 PM	Vitals	
	12:37 PM	Treatment	
	12:37 PM	Vitals	
	12:38 PM	Treatment	
	12:38 PM	Vitals	
	12:39 PM	Treatment	
	12:39 PM	Vitals	
	01:47 PM	Treatment	
	01:47 PM	Vitals	
	01:48 PM	Treatment	
	01:48 PM	Vitals	
	02:01 PM	Treatment	
	02:01 PM	Vitals	
	02:02 PM	Treatment	
	02:02 PM	Vitals	
	02:06 PM	Treatment	
	02:06 PM	Treatment	
	02:06 PM	Vitals	
	02:06 PM	Treatment	
	02:07 PM	Treatment	
	02:07 PM	Vitals	
	02:07 PM	Vitals	
	02:11 PM	Vitals	
	02:11 PM	Treatment	
	03:19 PM	Vitals	
	03:20 PM	Treatment	
	03:20 PM	Vitals	
	03:20 PM	Treatment	
	03:20 PM	Vitals	

Client:
Patient:

B6

Patient History

B6	03:20 PM	Vitals
	03:22 PM	Treatment
	03:23 PM	Treatment
	03:45 PM	Treatment
	03:45 PM	Vitals
	03:45 PM	Vitals
	04:07 PM	Treatment
	04:07 PM	Vitals
	04:07 PM	Treatment
	04:07 PM	Vitals
	04:09 PM	Vitals
	04:18 PM	Treatment
	04:18 PM	Vitals
	04:18 PM	Treatment
	04:18 PM	Vitals
	04:18 PM	Vitals
	04:38 PM	Purchase
	04:39 PM	Purchase
	05:12 PM	Treatment
	05:12 PM	Vitals
	05:12 PM	Treatment
	05:12 PM	Vitals
	05:12 PM	Treatment
	05:13 PM	Treatment
	05:13 PM	Vitals
	05:17 PM	Treatment
	05:17 PM	Treatment
	05:17 PM	Vitals
	05:18 PM	Treatment
	05:19 PM	Treatment
	05:19 PM	Vitals
	05:19 PM	Treatment
	05:19 PM	Vitals
	05:26 PM	Vitals
	05:27 PM	Treatment
	05:47 PM	Treatment
	05:47 PM	Vitals
	05:47 PM	Treatment
	05:47 PM	Vitals

B6

Client:
Patient:

B6

Patient History

05:47 PM	Vitals
06:01 PM	Vitals
06:54 PM	Treatment
06:54 PM	Vitals
06:54 PM	Treatment
06:54 PM	Vitals
07:11 PM	Treatment
07:11 PM	Vitals
07:12 PM	Treatment
07:12 PM	Vitals
07:44 PM	Treatment
07:44 PM	Vitals
07:44 PM	Treatment
07:44 PM	Vitals
07:44 PM	Vitals
07:45 PM	Treatment
07:45 PM	Vitals
09:03 PM	Treatment
09:03 PM	Vitals
09:03 PM	Treatment
09:03 PM	Vitals
09:04 PM	Treatment
09:17 PM	Treatment
09:17 PM	Vitals
09:18 PM	Treatment
09:18 PM	Vitals
09:19 PM	Treatment
09:19 PM	Vitals
09:19 PM	Vitals
09:19 PM	Treatment
09:19 PM	Vitals
09:21 PM	Vitals
09:21 PM	Treatment
09:45 PM	Treatment
09:45 PM	Vitals
09:45 PM	Treatment
09:45 PM	Vitals
10:49 PM	Treatment
10:49 PM	Vitals
10:50 PM	Treatment
10:50 PM	Vitals

B6

B6

Client:
Patient:

B6

Patient History

11:07 PM	Purchase
11:31 PM	Treatment
11:31 PM	Vitals
11:31 PM	Vitals
11:32 PM	Treatment
11:32 PM	Vitals
11:46 PM	Treatment
11:46 PM	Vitals
11:47 PM	Treatment
11:47 PM	Vitals
12:46 AM	Treatment
12:46 AM	Vitals
12:46 AM	Treatment
12:46 AM	Vitals
01:04 AM	Treatment
01:07 AM	Treatment
01:07 AM	Vitals
01:08 AM	Treatment
01:38 AM	Treatment
01:38 AM	Vitals
01:38 AM	Vitals
01:39 AM	Treatment
01:39 AM	Vitals
01:56 AM	Treatment
01:56 AM	Vitals
01:56 AM	Treatment
01:56 AM	Vitals
03:06 AM	Treatment
03:06 AM	Vitals
03:06 AM	Treatment
03:06 AM	Vitals
03:12 AM	Vitals
03:12 AM	Treatment
03:12 AM	Treatment
03:12 AM	Vitals
03:12 AM	Vitals
04:06 AM	Treatment
04:06 AM	Vitals
04:07 AM	Treatment

B6

B6

Client:
Patient:

B6

Patient History

04:07 AM	Vitals
04:07 AM	Treatment
04:07 AM	Vitals
04:49 AM	Treatment
04:49 AM	Vitals
04:49 AM	Treatment
04:49 AM	Vitals
04:52 AM	Treatment
04:52 AM	Vitals
04:53 AM	Treatment
04:59 AM	Treatment
04:59 AM	Vitals
05:00 AM	Treatment
05:24 AM	Vitals
05:24 AM	Treatment
05:24 AM	Vitals
05:45 AM	Treatment
05:45 AM	Vitals
05:45 AM	Treatment
05:45 AM	Vitals
06:44 AM	Treatment
06:44 AM	Vitals
06:44 AM	Treatment
06:44 AM	Vitals
07:57 AM	Treatment
07:57 AM	Vitals
07:57 AM	Treatment
07:57 AM	Vitals
07:59 AM	Vitals
08:02 AM	Treatment
08:02 AM	Vitals
08:05 AM	Treatment
08:05 AM	Vitals
08:08 AM	Vitals
08:08 AM	Treatment
08:14 AM	Treatment
08:14 AM	Vitals
08:16 AM	Vitals
09:02 AM	Treatment
09:02 AM	Vitals
09:03 AM	Treatment
09:03 AM	Vitals
09:10 AM	Treatment

B6

B6

Client:
Patient:

B6

Patient History

09:10 AM	Treatment
09:14 AM	Treatment
10:02 AM	Treatment
10:02 AM	Vitals
10:04 AM	Treatment
10:04 AM	Vitals
10:08 AM	Treatment
10:08 AM	Vitals
10:12 AM	Purchase
10:13 AM	Treatment
10:59 AM	Treatment
10:59 AM	Vitals
10:59 AM	Treatment
10:59 AM	Vitals
11:05 AM	Purchase
11:05 AM	Purchase
11:30 AM	Purchase
11:45 AM	Deleted Reason
11:47 AM	Treatment
11:47 AM	Vitals
11:47 AM	Treatment
11:47 AM	Vitals
11:53 AM	Treatment
11:53 AM	Vitals
11:53 AM	Vitals
12:59 PM	Treatment
12:59 PM	Vitals
01:00 PM	Treatment
01:00 PM	Vitals
01:01 PM	Treatment
02:13 PM	Treatment
02:17 PM	Treatment
02:17 PM	Vitals
02:17 PM	Treatment
02:17 PM	Vitals
02:22 PM	Vitals
02:22 PM	Treatment
02:59 PM	Treatment
02:59 PM	Vitals
03:30 PM	Treatment
03:30 PM	Vitals

B6

B6

10

Client:
Patient:

B6

Patient History

03:52 PM	Treatment
03:52 PM	Vitals
04:58 PM	Treatment
04:58 PM	Vitals
05:02 PM	Treatment
05:03 PM	UserForm
05:16 PM	Treatment
05:16 PM	Vitals
05:17 PM	Treatment
05:17 PM	Treatment
05:17 PM	Treatment
05:17 PM	Vitals
05:28 PM	Treatment
05:28 PM	Vitals
06:03 PM	Treatment
06:03 PM	Vitals
06:54 PM	Treatment
06:54 PM	Vitals
06:56 PM	Treatment
06:56 PM	Vitals
07:20 PM	Treatment
07:20 PM	Vitals
07:20 PM	Treatment
07:20 PM	Vitals
07:56 PM	Treatment
07:56 PM	Vitals
08:17 PM	Treatment
08:17 PM	Vitals
09:00 PM	Treatment
09:00 PM	Vitals
09:00 PM	Treatment
09:15 PM	Treatment
09:15 PM	Vitals
09:41 PM	Treatment
09:41 PM	Vitals
09:43 PM	Vitals
09:43 PM	Treatment
10:40 PM	Treatment
10:40 PM	Vitals
11:07 PM	Purchase
11:31 PM	Treatment
11:31 PM	Vitals
11:31 PM	Treatment
11:31 PM	Vitals
12:28 AM	Treatment

B6

B6

Client:
Patient:

B6

Patient History

B6

12:28 AM	Vitals
01:05 AM	Treatment
01:05 AM	Vitals
01:05 AM	Treatment
01:06 AM	Treatment
01:09 AM	Treatment
01:12 AM	Treatment
01:12 AM	Vitals
01:12 AM	Treatment
01:12 AM	Vitals
02:47 AM	Treatment
02:47 AM	Vitals
03:16 AM	Treatment
03:16 AM	Vitals
03:37 AM	Treatment
03:37 AM	Vitals
04:23 AM	Treatment
04:23 AM	Vitals
05:33 AM	Treatment
05:33 AM	Treatment
05:36 AM	Treatment
05:36 AM	Vitals
05:36 AM	Treatment
05:36 AM	Vitals
05:36 AM	Treatment
05:36 AM	Vitals
05:40 AM	Vitals
05:40 AM	Treatment
05:59 AM	Treatment
05:59 AM	Vitals
06:21 AM	Vitals
06:51 AM	Treatment
06:51 AM	Vitals
07:42 AM	Treatment
07:42 AM	Vitals
08:08 AM	Treatment
08:08 AM	Vitals
08:08 AM	Treatment
08:08 AM	Vitals
08:08 AM	Treatment
08:08 AM	Vitals
09:06 AM	Treatment
09:06 AM	Vitals
09:07 AM	Treatment
09:07 AM	Vitals
09:16 AM	Treatment
09:19 AM	Purchase

B6

Client:
Patient:

B6

Patient History

09:20 AM	Treatment
09:20 AM	Treatment
09:20 AM	Vitals
09:27 AM	Labwork
10:02 AM	Treatment
10:02 AM	Vitals
10:02 AM	Treatment
10:02 AM	Vitals
10:02 AM	Vitals
11:05 AM	Purchase
11:05 AM	Purchase
11:09 AM	Treatment
11:09 AM	Vitals
11:29 AM	Appointment
12:17 PM	Treatment
12:17 PM	Vitals
12:17 PM	Treatment
12:17 PM	Vitals
12:17 PM	Treatment
12:17 PM	Vitals
01:05 PM	Treatment
01:05 PM	Vitals
01:07 PM	Treatment
01:27 PM	Deleted Reason
01:27 PM	Purchase
01:32 PM	Prescription
01:36 PM	Prescription
01:36 PM	Treatment
01:36 PM	Vitals
01:36 PM	Treatment
01:36 PM	Vitals
01:36 PM	Treatment
01:36 PM	Vitals
02:35 PM	Email
12:59 PM	UserForm
01:22 PM	Treatment
01:23 PM	UserForm
01:25 PM	Vitals
01:37 PM	Purchase
01:38 PM	Purchase
01:53 PM	Vitals
02:20 PM	Prescription

B6

B6

Client: **B6**
Patient:

Patient History

B6	02:22 PM	Purchase
	03:19 PM	Appointment
	03:21 PM	Email

B6

Best Available Copy

Best Available Copy

Best Available Copy

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/>

Discharge Instructions

Patient**Name:**

B6

Signalment: B6 Years Old Brown/White Female (Spayed) Pit Bull**Owner****Name:****Address:**

B6

Patient ID: 439571**Emergency Clinician:** B6 DVM (Intern - SAM), B6 BVSc (Resident - Emergency and Critical Care)**Consulting Clinician:****ER Supervisor:**

B6

Admit Date: B6 8:55:09 AM**Check Out Date:** B6**Diagnosis:****1. Congestive Heart Failure: dilated cardiomyopathy**

Case Summary: B6 presented to the ER in significant respiratory distress. She was diagnosed with heart failure and required hospitalisation in an oxygen kennel alongside intravenous medications (furosemide, pimobendan, and nitroprusside) to control her breathing. Echocardiography (heart scan) showed that she had a dilated heart, a condition called dilated cardiomyopathy. B6 has responded well to treatment and soon started breathing well outside of oxygen. She has done well today and can now go home. B6 must receive all her medications in order to manage her heart condition. It is also very important that is fed the prescription hypoallergenic food ONLY.

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 minimal if heart failure is controlled.
- An increase in breathing rate or effort will usually mean that you should give an extra 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:

B6

B6

Diet suggestions:

B6 should continue to be fed Purina HA dry. She seemed to like that food while in hospital.

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 your dog to continue to eat their normal diet for the first 7 to 14 days so we can make sure they are tolerating medications well. 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.). 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/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.

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/Follow-up:

A recheck exam has been scheduled for

Friday, February 22, 2019 at 1:00pm with B6

B6

Patient ID: **B6**
Elsa Canine
B6 Years Old Female (Spayed) Pit Bull
Brown/White BW: Weight (kg) 19.00

Cardiology Consultation
ENROLLED IN DCM STUDY

Date: **B6**
Weight: Weight (kg) 19.00
Requesting Clinician: **B6** (ern - SAM)

Attending Cardiologist:

B6

Cardiology Resident:

B6

Thoracic radiographs available for review?

- ☒ Yes - in ER email
☐ Yes - in PACS
☐ No

Patient location: ER

Presenting complaint and important concurrent diseases: Dyspnea

STOP - remainder of form to be filled out by Cardiology

Physical Examination

B6

Muscle condition:

- ☐ Normal ☐ Moderate cachexia
☒ Mild muscle loss ☐ Marked cachexia

Cardiovascular Physical Exam

Murmur Grade:

- ☐ None ☐ IV/VI
☐ I/VI ☐ V/VI

- ☒ II/VI
- ☐ III/VI

- ☐ VI/VI

Murmur location/description: left apical systolic (animal panting, difficult auscultation)

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 vs.
- ☒ Fair at most
- ☐ 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:

General/2-D findings: **brief exam as patient got more dyspneic during exam**

LV walls are normal in thickness and LV contractile function is markedly decreased with severe LA enlargement. MV is thickened. RH is markedly dilated, TV is thickened and anterior leaflet looks longer than the posterior one. TV annulus is not apical displaced. Trace pericardial effusion. PA is bigger than the aorta. Tried to get an RVOT view, could not as P got worse. Could not see nor evidence of PDA, PS, neither heard a continuous murmur.

Doppler findings:

3+ TR, PG 71mmHg, without RA pressure;
2+ MR, jet centrally directed.

Mitral inflow: not assessed

- ☐ Summated
- ☐ Normal
- ☐ Pseudonormal
- ☐ Restrictive

☐ Delayed relaxation

Blood Pressure (mmHg): recommended

Radiographic findings:

Diffuse interstitial pattern bilaterally, pulmonary vessels not easily visible. Severe cardiomegaly with left mainstem bronchi compression and trachea is dorsally deviated.

Assessment and recommendations:

B6

Treatment plan:

B6

Final Diagnosis: DCM with LCHF; PHTN

Heart Failure Classification Score:

ISACHC Classification:

☐ Ia

☐ Ib

☐ II

☒ IIIa

☐ IIIb

ACVIM CHF 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
Ao Diam		cm
LA Diam		cm
LA/Ao		
Max LA		cm
Time		ms
HR		BPM
CO(Teich)		l/min
CI(Teich)		l/min/m
Ao Diam		cm
LA Diam		cm
LA/Ao		
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		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
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
RVIDD
RVIDS

B6

cm

cm
cm
ml
ml
cm
cm
ml
ml
BPM
%
%
ml
ml
l/min
l/min
cm
cm

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

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:

B6

Cardiology Resident:

B6

Cardiology Technician:

B6

Student: B6 V19

Admit Date: B6 12:37:33 PM

Discharge Date: B6

Diagnoses: Dilated cardiomyopathy (DCM) with congestive heart failure

Diagnostic test results and findings:

- o Labwork findings: The labwork results are pending. We will call you with these results.
- o ECG: The ECG did not show any arrhythmias on examination today.

Case summary:

Thank you for bringing B6 in for evaluation by the Tufts cardiology department for her recently diagnosed heart disease.

On exam today, B6 was bright and alert. You report that she is doing well at home and her respiratory rate has been between 18-24 when she is sleeping. ECG did not show any arrhythmias. B6 was breathing slightly harder after her exam so she was given one dose of furosemide. We are going to keep her on her current medication regimen and add an ACE inhibitor (enalapril) to reduce the workload on her heart.

Monitoring at home:

- o We would like you to continue monitoring 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.
- o In general, most dogs with heart failure that is well controlled have a breathing rate at rest of less than 30-34 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 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

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 has been scheduled for

Monday, May 13, 2019 at 1:00PM with B6

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
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Cummings

Veterinary Medical Center

AT TUFTS UNIVERSITY

Cardiology Liaison: 508-887-4696

B6

Patient ID: B6

B6 Canine

B6 Years Old Female (Spayed) Pit Bull
Brown/White

Cardiology Appointment Report -Patient enrolled in the DCM study-

Date: 2/22/2019

Attending Cardiologist:

B6

Cardiology Resident:

B6

Cardiology Technician:

B6

Student: B6 V19

Presenting Complaint:

DCM

General Medical History:

Presented to ER for dyspnea B6 On exam, grade II/VI murmur. Echo showed decreased contractility, marked RH dilation, thickened MV and TV, 2+ MR.

O reports doing well at home since discharge

Diet and Supplements:

Prescription purina cardiac diet, eating well
coconut oil to give medication

Cardiovascular History:

Prior CHF diagnosis? N

Prior heart murmur? Y

Prior ATE? N

Prior arrhythmia? N

Monitoring respiratory rate and effort at home? Yes, once a day, around 18-24

Cough? Coughed a few times last night, otherwise no cough, some sneezing

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

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 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 with excitement
- ☐ Marked dyspnea
- ☒ Normal BV sounds
- ☐ Pulmonary crackles
- ☐ Wheezes
- ☐ Upper airway stridor

Abdominal exam:

- ☒ Normal
- ☐ Hepatomegaly
- ☐ Abdominal distension
- ☐ Mild ascites
- ☐ Marked ascites

Problems:

DCM - CHF

Differential Diagnoses:

Diet-induced DCM vs. primary DCM

Diagnostic plan:

- ☐ Echocardiogram
- ☐ Chemistry profile
- ☐ ECG
- ☒ Renal profile
- ☐ Blood pressure
- ☐ Dialysis profile
- ☐ Thoracic radiographs
- ☐ NT-proBNP
- ☐ Troponin I
- ☐ Other tests:

ECG findings:

Heart rate: 128bpm

P wave: 0.06s - suggestive of LA enlargement

PR interval: 0.13s

QRS: 0.08s - suggestive of ventricular enlargement

R wave: 4.5mV - suggestive of LV enlargement

R-R interval: 0.48s

QT interval: 0.20s

cQT: 0.24s

ST segment: depressed -0.2mV

T wave: negative (-0.4mV)

MEA: +90 degrees

Interpretation: sinus rhythm with suggestion of LA and LV enlargement. No ventricular or atrial premature beats observed.

Assessment and recommendations:

Patient improved since discharge, normal appetite, good energy level and respiratory rate is ~18-20bpm. ACE inhibitor was started today (10mg SID for 3-4 days) and then increase to 10mg in the morning and 5mg in the evening, unless patient does not tolerate this dose or bloodwork performed today reveals any kidney change that may need dose adjustments. Patient will be on hydrolyzed diet (HA) until she's through with current bag and then will try the ProPlan Sensitive Skin and Stomach. If she develops diarrhea on this diet, client is instructed to go back to HA. Recheck scheduled for 3 months, or sooner in

case patient develops clinical signs consistent with worsening of the disease.

Final Diagnosis:

DCM - r/o primary vs. diet-induced.

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

Foster Hospital for Small Animals
55 Willard Street
North Grafton, MA 01536
Telephone (508) 839-5395
Fax (508) 839-7951
<http://vetmed.tufts.edu/>
Referring Vet Direct Line 508-887-4988

Notice of Patient Admit

Date: B6 8:55:09 AM
Referring Doctor: B6
Client Name: B6
Patient Name: B6

Case No: B6

Dear B6

Your patient presented to our Emergency service. Please make note of the following information to facilitate communication with our team.

The attending doctor is: B6

The reason for admission to the FHSA is: DCM, PHT, CHF

If you have any questions regarding this particular case, please call 508-887-4988 to reach the ECC Service. Information is updated daily, by noon.

Thank you for your referral to our Emergency Service.

Cummings
Veterinary Medical Center
AT TUFTS UNIVERSITY

B6

Foster Hospital for Small Animals
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North Grafton, MA 01536
Telephone (508) 839-5395
Fax (508) 839-7951
<http://vetmed.tufts.edu/>

B6

Female (Spayed)

Canine Pit Bull Brown/White

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 (Resident - Cardiology)

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

Female (Spayed)

Canine Pit Bull Brown/White

B6

B6

Dear B6

Thank you for referring B6 with their pet B6

B6 presented to the Tufts ER on B6 in significant respiratory distress. She was diagnosed with congestive heart failure secondary to dilated cardiomyopathy (DCM). B6 was stabilised with oxygen therapy, B6

B6 was enrolled into a research project with our Cardiology Service investigating an association between DCM and dogs fed grain free diets. She has done well and was discharged on B6

B6

B6 has a recheck appointment scheduled with B6, Resident in Cardiology, on 2/22/19.

If you have any questions, or concerns, please contact us at 508-887-4988.

Thank you,

B6 BVSc (Resident - Emergency & Critical Care)

Report Details - EON-380720

ICSR:	2063120		
Type Of Submission:	Initial		
Report Version:	FPSR.FDA.PETF.V.V1		
Type Of Report:	Adverse Event (a symptom, reaction or disease associated with the product)		
Reporting Type:	Voluntary		
Report Submission Date:	2019-02-24 19:08:40 EST		
Reported Problem:	Problem Description:	Annual RDVM visit identified murmur. Echo done by mobile ultrasonographer showed DCM. We evaluated as part of study 2/1/19 - has DCM Eating BEG diet Changed to Pro Plan Weight management dry and we will recheck in 3 months	
	Date Problem Started:	02/01/2019	
	Concurrent Medical Problem:	Yes	
	Pre Existing Conditions:	Hot spot 1/14/19; overweight	
	Outcome to Date:	Stable	
Product Information:	Product Name:	Earthborn Coastal Catch dry	
	Product Type:	Pet Food	
	Lot Number:		
	Package Type:	BAG	
	Product Use Information:	Description:	Please see diet history for more info
	Manufacturer /Distributor Information:		
	Purchase Location Information:		
Animal Information:	Name:	B6	
	Type Of Species:	Dog	
	Type Of Breed:	Retriever - Golden	
	Gender:	Male	
	Reproductive Status:	Neutered	
	Weight:	36.3 Kilogram	
	Age:	B6 Years	
	Assessment of Prior Health:	Excellent	
	Number of Animals Given the Product:	1	
	Number of Animals Reacted:	1	
	Owner Information:	Owner Information provided:	Yes
		Contact:	Name: B6
			Phone: B6
			Email: B6
		Address:	B6 United States
	Healthcare Professional Information:	Practice Name:	Tufts Cummings School of Veterinary Medicine
		Contact:	Name: Lisa Freeman
			Phone: (508) 887-4523

			Email: lisa.freeman@tufts.edu
		Address:	200 Westboro Rd North Grafton Massachusetts 01536 United States
Sender Information:	Name:	Lisa Freeman	
	Address:	200 Westboro Rd North Grafton Massachusetts 01536 United States	
	Contact:	Phone:	5088874523
		Email:	lisa.freeman@tufts.edu
	Permission To Contact Sender:	Yes	
	Preferred Method Of Contact:	Email	
Additional Documents:	Attachment:	rpt_medical_record_preview.pdf	
	Description:	Medical records	
	Type:	Medical Records	

Client:
Address:

B6

All Medical Records

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:

Emergency

SOAP Text **B6** 11:44PM **B6**

B6 11:44:47 PM EXAM, GENERAL

Subjective (S)

Dx with tongue abscess at RDVM today - got IV fluids and **B6** owner didn't give **B6** l at home orally). He was seen at RDVM because he was panting and lethargic and had nasal discharge. He was grunting and was not feeling well at home. Wretching at home before presentation. Got bully stick yesterday night. Other owner took stick out of mouth the night before - unsure if he was chewing on it or what. Been slowing down a little past couple months. No breathing difficulty.

Current meds:

B6

Objective (O)

B6

Client: **B6**
Patient:

Assessment (A)

A1: Severe inspiratory stridor - R/O laryngeal paralysis vs severe caudal oral inflammation (tongue abscess vs mass)

A2: Tongue mass/abscess

A3: Concurrent NSAID and steroid use

Plan (P)

B6

Endotracheal intubation attempted - initial attempt failed and when second attempt taken, patient became bradycardic and received 5 ml atropine IV - heart rate responded well except for intermittent VPCs which resolved after 2 minutes. Patient was maintained in iso/O2 and transferred to ICU for monitoring and continued intubation.

Diagnostics:

B6

Deposit and estimate: **B6**

SOAP completed by: **B6** rDVM

B6

SOAP Text: **B6** 6:14PM **B6**

Doctor: **B6** ECC Resident

Presenting complaint:

Panting, nasal discharge, gagging/retching at home

Was at rDVM earlier yesterday, then came here in pm with severe respiratory distress

rDVM tx'd for presumptive tongue abscess with **B6**

intubated here (with difficulty) and maintained on table for several hours before extubating - has breathed well since that time

Diagnostics:

B6

Client:
Patient:

B6

Treatments

dexSP after intubation due to severe swelling
atropine during intubation due to bradycardia - responded well
intubation for several hours

B6

Exam:

B6

Assessment (A)

A1: upper airway congestion vs. obstruction (lar-par vs. mass effect (abscess vs. neoplasia)

Dx Plan (P)

P1: CXR - poss lesion right caudal lobe, otherwise unremarkable
P2: FNA of mass (see below) - septic suppurative inflammation

Tx Plan

B6

P for tomorrow - CT +/- surgery
histo pending

Communication Summary:
See CComm notes

SOAP Text **B6** 8:00AM **B6**

Doctor: **B6** ECC Resident

Presenting complaint:

Panting, nasal discharge, gagging/retching at home
Was at rDVM earlier yesterday, then came here in pm with severe respiratory distress

Client:
Patient:

B6

rDVM tx'd for presumptive tongue abscess with **B6**
intubated here (with difficulty) and maintained on table for several hours before extubating - has breathed well since that time

Diagnostics

B6

Treatments

B6

Exam:

B6

Assessment (A)

A1: upper airway congestion vs. obstruction (lar-par vs. mass effect (abscess vs. neoplasia)

Plan

PI: CT this am +/- surgery

histo pending

Communication Summary:

See CComm notes

B6

10:55:51 AM Anesthesia Notes - breathing well afte extubation. returned to run on heat. T-99.1. rounded with

B6

B6

Client:
Patient:

B6

B6

SOAP Text

B6

10:47AM -

B6

Doctor: **B6** FCC Resident

Presenting complaint:

Panting, nasal discharge, gagging/retching at home

Was at rDVM, then came here in pm with severe respiratory distress

rDVM tx'd for presumptive tongue abscess with **B6**

intubated here (with difficulty) and maintained on table for several hours before extubating

re-intubated the next day for sedated oral exam

CT yesterday - report from anesthesia is that they could visualize aretynoids

Diagnostics

B6

Treatments

dexSP after intubation **B6** due to severe swelling (pre

B6

B6

Exam:

B6

Client:

B6

Patient:

B6

Assessment (A)

A1: upper airway congestion vs. obstruction (lar-par vs. mass effect (abscess vs. neoplasia)

Plan

P1: **B6**

P2: sedate as little as possible and try to take outside. see how he does

P3: histo --- >

Communication Summary:

See CComm notes

owner called 08:30 and talked to **B6** - apparently upset about lack of update and didn't understand some concerns. I called her back later - see CComm entry.

B6

SOAP Text

B6

2:59PM -

B6

Doctor: **B6** ECC Resident

Presenting complaint:

Panting, nasal discharge, gagging/retching at home

Was at rDVM, then came here in pm with severe respiratory distress

rDVM tx'd for presumptive tongue abscess with **B6**

intubated here (with difficulty) and maintained on table for several hours before extubating

re-intubated the next day for sedated oral exam

CT - report from anesthesia is that they could visualize arytenoids

Slow improvement, failed owner visit 6/23 and was re-sedated, settled well

Diagnostics

B6

Treatments

Client: **B6**
Patient:

B6

Assessment (A)

A1: upper airway congestion vs. obstruction (lar-par vs. mass effect (abscess vs. neoplasia)

Plan

B6

Communication Summary:

See CComm notes

B6 9:14:51 AM

Prescribed **B6**

Instructions - 500 mg PO BID - Expires: **B6** No Refills

SOAP Text **B6** 4:06PM - **B6**

Doctor: **B6** ECC Resident

Presenting complaint:

Panting, nasal discharge, gagging/retching at home

Was at rDVM, then came here in pin with severe respiratory distress

rDVM tx'd for presumptive tongue abscess with **B6**

intubated here (with difficulty) and maintained on table for several hours before extubating

re-intubated the next day for sedated oral exam

CT - report from anesthesia is that they could visualize arytenoids

Slow improvement, failed owner visit **B6** and was re-sedated, settled well

Diagnostics

B6

Client:
Patient:

B6

B6

B6

Treatments

Current - IVF at 30 ml/kg/d, eating well, occasional mild sedation

B6

B6

Exam:

B6

Assessment (A)

A1: upper airway congestion vs. obstruction (lar-par vs. mass effect (abscess vs. neoplasia)

Plan

B6

Communication Summary:

See CComm notes

SOAP Text

B6

9:19AM -

B6

B6

B6

Presenting complaint:

Panting, nasal discharge, gagging/retching at home

Was at rDVM, then came here in pm with severe respiratory distress

rDVM tx'd for presumptive tongue abscess with

B6

Client:
Patient:

B6

intubated here (with difficulty) and maintained on table for several hours before extubating
re-intubated the next day for sedated oral exam
Report from anesthesia is that they could visualize arytenoids
Slow improvement, failed owner visit **B6** and was re-sedated, settled well

Overnight update: Clinically well, but had a fever of 105.7 at 10PM, resolved with time and IVF bolus.

Diagnostics

B6

Treatments

B6

Exam:

B6

Assessment (A)

A1: upper airway congestion vs. obstruction (lar-par vs. mass effect (abscess vs. neoplasia)

Plan

B6

PF: Owner to visit at 4pm, possibly TGH if stable

Client: **B6**
Patient:

Communication Summary: **B6** N. if
B6

B6

Initial Complaint:

Emergency

SOAP Text **B6** 12:03PM - **B6**

EXAM, GENERAL **B6**

Subjective (S)

9 yr MC Golden - this week lethargic, o' thinks very lethargic yesterday and could have died. Having to encourage him to get up out of bed, doesn't want to do anything, but one day did go for a long walk. Yesterday had episode in afternoon where he was extremely lethargic but recovered later so didn't have evaluated. No V/D, no C/S or ocularnasal discharge. No changes in appetite. Full bloodwork 2 weeks ago, noted new murmur grade **B6**, recommended echo which is scheduled for **B6**. O wants sooner.

B6

Travel: None.

Objective (O)

B6

Client: **B6**
Patient:

B6

Assessment (A)

A1: Lethargy: diagnosis open

A2: New heart murmur: DMVD vs. DCM vs. other

Plan (P)

B6

-Keep scheduled appointment with Cardio for echo

Client communication: Patient presented to ER for hot spot and was placed in exam room to wait due to dog aggression/fear aggression. Met with client - introduced myself and client revealed that she was actually here because

B6 was displaying extreme lethargy yesterday and she is concerned for cardiac disease, as her vet recently diagnosed a heart murmur and recommended a cardio consult and workup, which is scheduled for February. Client is very concerned that lethargy is cardiac related and wants echo sooner. She describes patient as non responsive and unwilling to get up yesterday, afraid he might die, but did not want to seek care yesterday. He seemed better in the afternoon and went for his normal walk. Explained to client that I am unlikely able to get a cardio consult today for a stable patient, unless we find significant changes on exam such as lung changes or arrhythmia, and again don't suspect that lethargy will be cardiac in origin but need to perform a full exam. Discussed exam findings - normal patient, low grade murmur, warrants workup but not today. Offered recheck bloodwork since done 2 weeks ago but lethargy is new, client declined. Would like treatment for hot spot and will keep cardio appointment.

SOAP completed by: **B6** DVM (ECC Resident)

Initial Complaint:

Cardiology Recheck - DCM study - will be fasted - fearful dog will be waiting in car

SOAP Text **B6** 1:48PM - 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

Nova Full Panel-ICU		B6	11:58:25 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	
BEecf		0 - 0	mmol/L	
BEb		0 - 0	mmol/L	
A		0 - 0	mmHg	
NOVA SAMPLE		0 - 0		

Client: **B6**
Patient: **B6**

FiO2	B6 (room air)	0 - 0	%
PCO2	B6	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 **B6** 12:14:52 AM 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 **B6** 2:13:12 AM Accession ID: **B6**

Test	Results	Reference Range	Units
WBC (ADVIA)	B6	4.4 - 15.1	K/uL
RBC(ADVIA)		5.8 - 8.5	M/uL
HGB(ADVIA)		13.3 - 20.5	g/dL
HCT(ADVIA)		39 - 55	%
MCV(ADVIA)		64.5 - 77.5	fL
MCH(ADVIA)		21.3 - 25.9	pg
MCHC(ADVIA)		31.9 - 34.3	g/dL
RDW (ADVIA)		11.9 - 15.2	
PLT(ADVIA)		173 - 486	K/uL
MPV (ADVIA)		8.29 - 13.2	fL
RETIC(ADVIA)		0.2 - 1.6	%
RETICS (ABS) ADVIA		14.7 - 113.7	K/uL
COMMENTS (HEMATOLOGY)	B6	0 - 0	

Nova Full Panel-ICU **B6** 2:13:27 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
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

Client: **B6**
Patient: **B6**

CHLORIDE	B6	106 - 116	mEq/L
POTASSIUM		3.7 - 5.4	mEq/L
tCO ₂ (BICARB)		14 - 28	mEq/L
AGAP		8 - 19	
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
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

Nova Full Panel-ICU **B6** 2:13:10 AM Accession ID: **B6**

Test	Results	Reference Range	Units
SEGS%	B6	43 - 86	%
LYMPHS%		7 - 47	%
MONOS%		1 - 15	%
EOS%		0 - 16	%
SEGS (AB)ADVIA		2.8 - 11.5	K/uL
LYMPHS (ABS)ADVIA		1 - 4.8	K/uL
MONOS (ABS)ADVIA		0.1 - 1.5	K/uL
EOS (ABS)ADVIA		0 - 1.4	K/uL
WBC MORPHOLOGY		0 - 0	
No Morphologic Abnormalities			
RBC MORPHOLOGY		0 - 0	
See comment(s)			

B6

Nova Full Panel-ICU **B6** 12:35:00 PM Accession ID: **B6**

Test	Results	Reference Range	Units
		0 - 0	

AP results
CYTOLOGY REPORT

Clinical History:
Sample Source: Mass (base of tongue)
Slides Received: 1

Client: **B6**
Patient: **B6**

B6

Comments:

B6

Electronically Signed by **B6** @1:11 PM
B6, DVM, PhD, pathologist
Diplomate ACVP (Clinical Pathology)

0 - 0

AP results
CYTOLOGY REPORT

Clinical History:
Sample Source: Mass (base of tongue)
Slides Received: 1

B6

Comments:

B6

Electronically Signed by **B6** @1:11 PM
B6, DVM, PhD, pathologist
Diplomate ACVP (Clinical Pathology)

0 - 0

AP results
CYTOLOGY REPORT

Clinical History:
Sample Source: Mass (base of tongue)
Slides Received: 1

B6



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16/81

B6

B6

Printed Sunday, February 24, 2019

Client: **B6**
Patient:

B6

Cytologic Interpretation:
Septic suppurative inflammation

Comments:

B6

Electronically Signed by: **B6** @1:11 PM

B6, DVM, PhD, pathologist
Diplomate ACVP (Clinical Pathology)

Nova Full Panel-ICU		B6 12:35:00 PM	Accession ID: B6
Test	Results	Reference Range	Units

0 - 0

AP results
PRELIMINARY BIOPSY REPORT

B6

Electronically Signed by: **B6** @3:23 PM

B6, DVM
Diplomate ACVP (Anatomic Pathology)

0 - 0

AP results
PRELIMINARY BIOPSY REPORT

B6

Electronically Signed by: **B6** @3:23 PM

B6, DVM
Diplomate ACVP (Anatomic Pathology)

0 - 0

AP results
PRELIMINARY BIOPSY REPORT

Client:
Patient:

B6

B6

Electronically Signed by **B6** @3:23 PM
B6 DVM
Diplomate ACVP (Anatomic Pathology)

0 - 0

AP results
BIOPSY REPORT

Diagnosis:
Tongue: fibrino suppurative glossitis. Acid fast, GMS and Fite's stains were all negative.

B6

Comment:

B6

Electronically Signed by **B6** @11:19 AM
B6 DVM
Diplomate ACVP (Anatomic Pathology)

0 - 0

AP results
BIOPSY REPORT

Diagnosis:
Tongue: fibrino suppurative glossitis. Acid fast, GMS and Fite's stains were all negative.

B6

Gross Description:



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18/81

B6

B6

Printed Sunday, February 24, 2019

Client:
Patient:

B6

B6

Electronically Signed by **B6** @11:19 AM

B6, DVM

Diplomate ACVP (Anatomic Pathology)

0 - 0

AP results
BIOPSY REPORT

Diagnosis:

Tongue: fibrino suppurative glossitis. Acid fast, GMS and Fite's stains were all negative.

B6

Electronically Signed by **B6** @11:19 AM

B6, DVM

Diplomate ACVP (Anatomic Pathology)

Nova Full Panel-ICU		B6	11:34:12 AM	Accession ID: B6
Test	Results	Reference Range	Units	
WBC (ADVIA)	B6	4.4 - 15.1	K/uL	
RBC(ADVIA)		5.8 - 8.5	M/uL	
HGB(ADVIA)		13.3 - 20.5	g/dL	
HCT(ADVIA)		39 - 55	%	
MCV(ADVIA)		64.5 - 77.5	fL	
MCH(ADVIA)		21.3 - 25.9	pg	
MCHC(ADVIA)		31.9 - 34.3	g/dL	
RDW (ADVIA)		11.9 - 15.2		
PLT(ADVIA)		173 - 486	K/uL	
MPV (ADVIA)		8.29 - 13.2	fL	
RETIC(ADVIA)		0.2 - 1.6	%	



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19/81

B6

B6

Printed Sunday, February 24, 2019

Client:
Patient:

B6

RETICS (ABS) ADVIA
COMMENTS (HEMATOLOGY)

B6

14.7 - 113.7 K/uL
0 - 0

Nova Full Panel-ICU

B6

11:34:10 AM

Accession ID:

B6

Test	Results	Reference Range	Units
SEGS%	B6	43 - 86	%
LYMPIIS%		7 - 47	%
MONOS%		1 - 15	%
EOS%		0 - 16	%
SEGS (AB)ADVIA		2.8 - 11.5	K/uL
LYMPHS (ABS)ADVIA		1 - 4.8	K/uL
MONOS (ABS)ADVIA		0.1 - 1.5	K/uL
EOS (ABS)ADVIA		0 - 1.4	K/uL
WBC MORPHOLOGY		0 - 0	
No Morphologic Abnormalities			
ACANTHOCYTES	B6	0 - 0	
POIKILOCYTOSIS		0 - 0	



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20/81

B6

B6

Printed Sunday, February 24, 2019

Vitals Results

B6	12:08:06 AM	Notes	B6
	1:11:50 AM	Respiratory Rate	
	1:14:59 AM	Temperature (F)	
	1:15:05 AM	Heart Rate (/min)	
	1:15:11 AM	Respiratory Rate	
	1:51:23 AM	Weight (kg)	
	2:09:14 AM	Nursing note	
	3:06:54 AM	Respiratory Rate	
	4:08:04 AM	Quantify IV fluids (mls)	
	4:15:21 AM	Notes	
	4:15:37 AM	Heart Rate (/min)	
	4:15:42 AM	Respiratory Rate	
	4:56:54 AM	Respiratory Rate	
	5:29:10 AM	Respiratory Rate	
	5:29:33 AM	Heart Rate (/min)	
	8:00:07 AM	Respiratory Rate	
	8:05:00 AM	Quantify IV fluids (mls)	
	8:05:46 AM	Heart Rate (/min)	
	8:15:57 AM	Notes	

Client:
Patient:

B6

Vitals Results

8:42:45 AM	Eliminations
9:05:55 AM	Respiratory Rate
9:56:24 AM	Respiratory Rate
10:20:08 AM	Heart Rate (/min)
10:20:17 AM	Temperature (F)
11:20:32 AM	Respiratory Rate
11:28:48 AM	Quantify IV fluids (mls)
11:29:15 AM	Nursing note
11:57:30 AM	Heart Rate (/min)
11:57:41 AM	Respiratory Rate
1:34:24 PM	Respiratory Rate
1:42:09 PM	Heart Rate (/min)
1:42:15 PM	Respiratory Rate
2:52:19 PM	Respiratory Rate
3:47:24 PM	Quantify IV fluids (mls)
3:49:14 PM	Heart Rate (/min)
3:50:21 PM	Nursing note
3:54:12 PM	Respiratory Rate
4:25:03 PM	Respiratory Rate
4:51:03 PM	Nursing note
5:26:32 PM	Temperature (F)
5:26:51 PM	Heart Rate (/min)
5:53:46 PM	Respiratory Rate
6:53:35 PM	Respiratory Rate
7:02:31 PM	Quantify IV fluids (mls)
7:13:37 PM	Heart Rate (/min)
7:16:53 PM	Amount eaten
7:23:54 PM	Eliminations
7:30:08 PM	Notes
7:59:23 PM	Respiratory Rate
8:58:25 PM	Respiratory Rate
9:18:22 PM	Eliminations
9:30:08 PM	Heart Rate (/min)
9:48:38 PM	Respiratory Rate
10:49:14 PM	Respiratory Rate
11:02:12 PM	Quantify IV fluids (mls)
11:46:39 PM	Heart Rate (/min)
11:46:47 PM	Respiratory Rate

B6

Client:
Patient:

B6

Vitals Results

B6	12:14:17 AM	Nursing note
	12:54:08 AM	Respiratory Rate
	1:04:11 AM	Heart Rate (/min)
	1:04:28 AM	Temperature (F)
	1:26:28 AM	Respiratory Rate
	2:53:02 AM	Respiratory Rate
	3:09:30 AM	Quantify IV fluids (mls)
	3:09:56 AM	Heart Rate (/min)
	3:10:07 AM	Urine Output (mls)
	3:35:40 AM	Respiratory Rate
	4:52:22 AM	Respiratory Rate
	4:54:33 AM	Heart Rate (/min)
	5:53:00 AM	Respiratory Rate
	5:53:58 AM	Notes
	6:34:23 AM	Respiratory Rate
	7:46:42 AM	Quantify IV fluids (mls)
	7:47:07 AM	Respiratory Rate
	7:54:10 AM	Heart Rate (/min)
	7:54:39 AM	Nursing note
	9:53:59 AM	Nursing note
	10:52:03 AM	Respiratory Rate
	10:52:31 AM	Temperature (F)
	10:52:39 AM	Heart Rate (/min)
	10:53:42 AM	Eliminations
	10:55:51 AM	Anesthesia Notes
	11:23:11 AM	Quantify IV fluids (mls)
	11:26:32 AM	Heart Rate (/min)
	11:28:14 AM	Respiratory Rate
	11:57:04 AM	Temperature (F)
	12:47:32 PM	Respiratory Rate
	1:03:39 PM	Eliminations
	1:46:43 PM	Heart Rate (/min)
	1:46:49 PM	Respiratory Rate
	2:51:18 PM	Respiratory Rate
	3:23:43 PM	Quantify IV fluids (mls)
	3:29:26 PM	Amount eaten

B6

Client:

B6

Patient:

Vitals Results

3:32:42 PM	Eliminations
3:34:45 PM	Heart Rate (/min)
3:54:20 PM	Respiratory Rate
3:54:36 PM	Notes
4:00:16 PM	Eliminations
4:32:14 PM	Respiratory Rate
4:53:11 PM	Respiratory Rate
5:31:23 PM	Eliminations
6:02:43 PM	Respiratory Rate
6:03:03 PM	Temperature (F)
6:14:36 PM	Heart Rate (/min)
7:00:35 PM	Respiratory Rate
7:19:26 PM	Eliminations
7:44:00 PM	Eliminations
7:54:57 PM	Respiratory Rate
7:55:15 PM	Heart Rate (/min)
7:56:11 PM	Quantify IV fluids (mls)
8:18:55 PM	Nursing note
9:13:49 PM	Respiratory Rate
10:13:58 PM	Eliminations
10:14:01 PM	Eliminations
10:17:22 PM	Heart Rate (/min)
10:17:29 PM	Respiratory Rate
10:18:11 PM	Amount eaten
10:49:12 PM	Respiratory Rate
12:15:03 AM	Notes
12:16:25 AM	Quantify IV fluids (mls)
12:16:38 AM	Respiratory Rate
12:16:47 AM	Heart Rate (/min)
12:17:44 AM	Notes
12:18:01 AM	Eliminations
12:45:54 AM	Respiratory Rate
1:12:07 AM	Heart Rate (/min)
1:12:20 AM	Temperature (F)
2:07:00 AM	Respiratory Rate
2:57:34 AM	Respiratory Rate
3:08:59 AM	Quantify IV fluids (mls)
3:09:27 AM	Eliminations
3:09:36 AM	Amount eaten

B6**B6**

Client:
Patient:

B6

Vitals Results

3:16:35 AM	Notes
4:00:25 AM	Heart Rate (/min)
4:00:43 AM	Respiratory Rate
4:16:11 AM	Nursing note
4:57:44 AM	Respiratory Rate
6:02:26 AM	Respiratory Rate
6:02:45 AM	Heart Rate (/min)
6:52:28 AM	Respiratory Rate
6:52:51 AM	Eliminations
6:53:07 AM	Weight (kg)
6:53:22 AM	Heart Rate (/min)
6:54:04 AM	Quantity IV fluids (mls)
7:53:45 AM	Respiratory Rate
9:12:45 AM	Respiratory Rate
9:33:36 AM	Heart Rate (/min)
9:33:44 AM	Respiratory Rate
9:33:52 AM	Temperature (F)
9:33:57 AM	Amount eaten
10:50:22 AM	Quantity IV fluids (mls)
10:54:22 AM	Nursing note
11:02:57 AM	Respiratory Rate
11:13:16 AM	Eliminations
11:21:24 AM	Heart Rate (/min)
11:22:18 AM	Respiratory Rate
1:22:19 PM	Respiratory Rate
1:23:48 PM	Heart Rate (/min)
1:58:45 PM	Respiratory Rate
2:16:37 PM	Eliminations
2:17:02 PM	Nursing note
2:49:43 PM	Respiratory Rate
3:55:36 PM	Quantity IV fluids (mls)
3:56:08 PM	Notes
3:56:46 PM	Eliminations
4:14:11 PM	Respiratory Rate
4:16:57 PM	Heart Rate (/min)
4:27:58 PM	Eliminations
4:57:57 PM	Respiratory Rate
5:10:34 PM	Eliminations

B6

Client:
Patient:

B6

Vitals Results

5:14:04 PM	Amount eaten
5:29:03 PM	Heart Rate (/min)
5:29:10 PM	Temperature (F)
5:56:42 PM	Respiratory Rate
6:37:55 PM	Respiratory Rate
7:15:13 PM	Eliminations
7:39:44 PM	Quantify IV fluids (mls)
7:41:47 PM	Heart Rate (/min)
7:43:21 PM	Respiratory Rate
8:23:36 PM	Eliminations
9:23:31 PM	Respiratory Rate
9:28:01 PM	Heart Rate (/min)
9:28:07 PM	Amount eaten
10:10:29 PM	Respiratory Rate
11:20:09 PM	Respiratory Rate
11:38:19 PM	Quantify IV fluids (mls)
11:42:07 PM	Eliminations
12:12:58 AM	Heart Rate (/min)
12:13:10 AM	Respiratory Rate
1:07:14 AM	Respiratory Rate
1:48:11 AM	Heart Rate (/min)
1:48:20 AM	Temperature (F)
2:07:07 AM	Respiratory Rate
3:07:13 AM	Quantify IV fluids (mls)
3:08:02 AM	Eliminations
3:10:45 AM	Amount eaten
3:12:36 AM	Respiratory Rate
3:55:43 AM	Heart Rate (/min)
3:55:51 AM	Respiratory Rate
4:50:14 AM	Notes
5:05:09 AM	Respiratory Rate
5:30:06 AM	Nursing note
5:30:35 AM	Respiratory Rate
5:30:49 AM	Heart Rate (/min)
8:52:54 AM	Respiratory Rate
8:53:42 AM	Quantify IV fluids (mls)
8:53:50 AM	Heart Rate (/min)
8:58:15 AM	Eliminations
8:59:48 AM	Eliminations
9:08:05 AM	Respiratory Rate

B6

Client:
Patient:

B6

Vitals Results

B6	9:46:34 AM	Amount eaten
	11:15:30 AM	Quantify IV fluids (mls)
	12:31:06 PM	Eliminations
	3:13:56 PM	Quantify IV fluids (mls)
	3:14:17 PM	Eliminations
	3:17:16 PM	Amount eaten
	7:29:57 PM	Eliminations
	7:31:31 PM	Quantify IV fluids (mls)
	9:15:51 PM	Amount eaten
	9:35:42 PM	Amount eaten
	11:11:15 PM	Quantify IV fluids (mls)
	11:11:24 PM	Eliminations
	2:01:40 AM	Nursing note
	3:30:46 AM	Amount eaten
	3:32:36 AM	Quantify IV fluids (mls)
	3:39:55 AM	Eliminations
	7:39:55 AM	Weight (kg)
	7:40:12 AM	Eliminations
	7:41:25 AM	Quantify IV fluids (mls)
	9:43:47 AM	Weight (kg)
	9:43:57 AM	Eliminations
	9:47:09 AM	Amount eaten
	9:50:24 AM	Quantify IV fluids (mls)
	10:42:19 AM	Temperature (F)
	10:42:31 AM	Notes
	11:59:42 AM	Eliminations
	12:51:44 PM	Heart Rate (/min)
	12:51:45 PM	Respiratory Rate
	1:44:04 PM	Eliminations
	1:44:18 PM	Quantify IV fluids (mls)
	1:55:23 PM	Notes
	1:56:59 PM	Eliminations
	2:02:20 PM	Quantify IV fluids (mls)
	3:28:10 PM	Eliminations
	3:28:25 PM	Heart Rate (/min)
	3:28:26 PM	Respiratory Rate
	3:30:41 PM	Amount eaten

B6

Client:
Patient:

B6

Vitals Results

5:18:47 PM	Quantity IV fluids (mls)
5:18:55 PM	Eliminations
5:44:04 PM	Notes
7:45:05 PM	Heart Rate (/min)
7:45:06 PM	Respiratory Rate
7:46:46 PM	Eliminations
9:29:34 PM	Notes
10:19:35 PM	Eliminations
10:19:48 PM	Quantity IV fluids (mls)
10:24:30 PM	Amount eaten
10:24:48 PM	Temperature (F)
10:29:29 PM	Nursing note
11:16:25 PM	Temperature (F)
11:44:31 PM	Heart Rate (/min)
11:44:32 PM	Respiratory Rate
12:23:56 AM	Eliminations
1:19:56 AM	Notes
1:20:25 AM	Eliminations
1:20:38 AM	Quantity IV fluids (mls)
3:18:28 AM	Heart Rate (/min)
3:18:29 AM	Respiratory Rate
3:24:36 AM	Eliminations
5:19:54 AM	Eliminations
5:20:05 AM	Notes
5:20:44 AM	Quantity IV fluids (mls)
8:03:25 AM	Weight (kg)
8:03:31 AM	Eliminations
8:36:52 AM	Temperature (F)
8:37:03 AM	Heart Rate (/min)
8:37:04 AM	Respiratory Rate
9:15:52 AM	Eliminations
10:03:31 AM	Notes
11:20:02 AM	Temperature (F)
11:21:40 AM	Heart Rate (/min)
11:21:41 AM	Respiratory Rate
11:28:12 AM	Eliminations
11:39:28 AM	Amount eaten

B6

Client:
Patient:

B6

Vitals Results

B6	1:26:31 PM	Eliminations	B6
	1:27:02 PM	Notes	
	4:02:49 PM	Heart Rate (/min)	
	4:02:50 PM	Respiratory Rate	
	4:18:14 PM	Weight (kg)	

Patient History

B6	10:57 PM	UserForm	B6
	10:57 PM	UserForm	
	10:57 PM	Email	
	11:15 PM	Treatment	
	11:58 PM	Purchase	
	12:08 AM	Vitals	
	12:08 AM	Purchase	
	12:08 AM	Purchase	
	12:09 AM	Purchase	
	12:09 AM	Purchase	
	12:09 AM	Purchase	
	12:15 AM	Labwork	
	12:21 AM	UserForm	
	01:11 AM	Treatment	
	01:11 AM	Vitals	
	01:14 AM	Treatment	
	01:14 AM	Vitals	
	01:15 AM	Treatment	
	01:15 AM	Vitals	
	01:15 AM	Treatment	
	01:15 AM	Vitals	
	01:16 AM	Treatment	
	01:18 AM	Treatment	
	01:51 AM	Vitals	
	01:57 AM	Treatment	
	02:09 AM	Vitals	
	02:13 AM	Purchase	
	02:13 AM	Purchase	
	03:06 AM	Treatment	
	03:06 AM	Vitals	
	03:13 AM	Treatment	
	04:08 AM	Treatment	
	04:08 AM	Vitals	
	04:09 AM	Treatment	
	04:12 AM	Treatment	

Client:

B6

Patient:

Patient History

04:15 AM	Treatment
04:15 AM	Treatment
04:15 AM	Vitals
04:15 AM	Treatment
04:15 AM	Vitals
04:15 AM	Treatment
04:15 AM	Vitals
04:17 AM	Treatment
04:23 AM	Treatment
04:52 AM	UserForm
04:56 AM	Treatment
04:56 AM	Vitals
05:29 AM	Treatment
05:29 AM	Vitals
05:29 AM	Treatment
05:29 AM	Vitals
08:00 AM	Treatment
08:00 AM	Vitals
08:05 AM	Treatment
08:05 AM	Vitals
08:05 AM	UserForm
08:05 AM	Treatment
08:05 AM	Vitals
08:10 AM	Purchase
08:15 AM	Treatment
08:15 AM	Vitals
08:15 AM	Vitals
08:42 AM	Vitals
08:48 AM	Purchase
08:48 AM	Treatment
09:05 AM	Vitals
09:07 AM	Purchase
09:55 AM	Treatment
09:56 AM	Treatment
09:56 AM	Vitals
10:20 AM	Vitals
10:20 AM	Vitals
11:08 AM	Treatment
11:20 AM	Treatment
11:20 AM	Treatment
11:20 AM	Treatment
11:20 AM	Vitals
11:24 AM	Treatment
11:28 AM	Treatment
11:28 AM	Treatment
11:28 AM	Vitals

B6**B6**

Client:
Patient:

B6

Patient History

B6	11:29 AM	Vitals
	11:57 AM	Treatment
	11:57 AM	Vitals
	11:57 AM	Treatment
	11:57 AM	Vitals
	12:02 PM	Purchase
	12:19 PM	Treatment
	12:33 PM	Purchase
	12:35 PM	Purchase
	01:34 PM	Treatment
	01:34 PM	Vitals
	01:35 PM	Treatment
	01:38 PM	Treatment
	01:42 PM	Treatment
	01:42 PM	Vitals
	01:42 PM	Treatment
	01:42 PM	Vitals
	02:52 PM	Treatment
	02:52 PM	Vitals
	03:47 PM	Treatment
	03:47 PM	Vitals
	03:49 PM	Treatment
	03:49 PM	Vitals
	03:49 PM	UserForm
	03:50 PM	Vitals
	03:54 PM	Treatment
	03:54 PM	Vitals
	04:25 PM	Treatment
	04:25 PM	Vitals
	04:49 PM	Treatment
	04:51 PM	Vitals
	05:00 PM	Prescription
	05:15 PM	Task
	05:17 PM	Prescription
	05:26 PM	Treatment
	05:26 PM	Vitals
	05:26 PM	Treatment
	05:26 PM	Vitals
	05:50 PM	Treatment
	05:53 PM	Treatment
	05:53 PM	Vitals
	06:19 PM	UserForm
	06:32 PM	UserForm
	06:53 PM	Treatment

B6

Client:
Patient:

B6

Patient History

06:53 PM	Vitals
07:02 PM	Treatment
07:02 PM	Vitals
07:12 PM	Treatment
07:13 PM	Treatment
07:13 PM	Vitals
07:16 PM	Treatment
07:16 PM	Vitals
07:23 PM	Vitals
07:30 PM	Treatment
07:30 PM	Vitals
07:59 PM	Treatment
07:59 PM	Vitals
08:58 PM	Treatment
08:58 PM	Vitals
09:18 PM	Vitals
09:30 PM	Treatment
09:30 PM	Vitals
09:48 PM	Treatment
09:48 PM	Vitals
10:49 PM	Treatment
10:49 PM	Vitals
11:01 PM	Treatment
11:02 PM	Treatment
11:02 PM	Vitals
11:46 PM	Treatment
11:46 PM	Vitals
11:46 PM	Treatment
11:46 PM	Vitals
12:00 AM	Purchase
12:00 AM	Purchase
12:14 AM	Vitals
12:54 AM	Treatment
12:54 AM	Vitals
12:57 AM	Treatment
01:04 AM	Treatment
01:04 AM	Treatment
01:04 AM	Vitals
01:04 AM	Treatment
01:04 AM	Vitals
01:26 AM	Treatment
01:26 AM	Vitals
02:53 AM	Treatment
02:53 AM	Vitals
02:55 AM	Treatment
03:09 AM	Treatment

B6

B6

Client:
Patient:

B6

Patient History

	03:09 AM	Treatment
	03:09 AM	Vitals
	03:09 AM	Treatment
	03:09 AM	Vitals
	03:10 AM	Vitals
	03:35 AM	Treatment
	03:35 AM	Vitals
	04:52 AM	Treatment
	04:52 AM	Vitals
	04:54 AM	Treatment
	04:54 AM	Vitals
	05:53 AM	Treatment
	05:53 AM	Vitals
	05:53 AM	Treatment
	05:53 AM	Vitals
	06:34 AM	Treatment
	06:34 AM	Vitals
	07:46 AM	Treatment
	07:46 AM	Vitals
	07:47 AM	Treatment
	07:47 AM	Vitals
	07:54 AM	Treatment
	07:54 AM	Vitals
	07:54 AM	Vitals
B6	07:54 AM	Vitals
	09:53 AM	Vitals
	09:55 AM	Purchase
	09:55 AM	Purchase
	09:55 AM	Treatment
	10:20 AM	Purchase
	10:52 AM	Treatment
	10:52 AM	Vitals
	10:52 AM	Treatment
	10:52 AM	Vitals
	10:52 AM	Treatment
	10:52 AM	Vitals
	10:53 AM	Vitals
	10:55 AM	Vitals
	10:58 AM	Purchase
	10:58 AM	Purchase
	10:58 AM	Purchase
	11:17 AM	Treatment
	11:21 AM	Purchase

B6

Client:
Patient:

B6

Patient History

11:21 AM	Treatment
11:23 AM	Treatment
11:23 AM	Vitals
11:26 AM	Treatment
11:26 AM	Vitals
11:28 AM	Treatment
11:28 AM	Vitals
11:29 AM	Prescription
11:33 AM	Purchase
11:33 AM	Prescription
11:55 AM	Treatment
11:57 AM	Treatment
11:57 AM	Vitals
12:02 PM	Purchase
12:47 PM	Treatment
12:47 PM	Vitals
12:47 PM	Vitals
01:03 PM	Vitals
01:46 PM	Treatment
01:46 PM	Vitals
01:46 PM	Treatment
01:46 PM	Vitals
02:51 PM	Treatment
02:51 PM	Vitals
03:23 PM	Treatment
03:23 PM	Vitals
03:29 PM	Treatment
03:29 PM	Vitals
03:32 PM	Treatment
03:32 PM	Vitals
03:34 PM	Treatment
03:34 PM	Vitals
03:54 PM	Treatment
03:54 PM	Vitals
03:54 PM	Treatment
03:54 PM	Vitals
04:00 PM	Vitals
04:32 PM	Vitals
04:32 PM	Vitals
04:53 PM	Treatment
04:53 PM	Vitals
05:31 PM	Vitals
06:02 PM	Treatment
06:02 PM	Vitals
06:03 PM	Treatment
06:03 PM	Vitals

B6

B6

Client:
Patient:

B6

Patient History

06:14 PM	Treatment
06:14 PM	Vitals
06:40 PM	Treatment
07:00 PM	Treatment
07:00 PM	Vitals
07:19 PM	Vitals
07:19 PM	Vitals
07:44 PM	Vitals
07:51 PM	Treatment
07:54 PM	Treatment
07:54 PM	Vitals
07:55 PM	Treatment
07:55 PM	Vitals
07:56 PM	Treatment
07:56 PM	Vitals
08:18 PM	Vitals
09:13 PM	Treatment
09:13 PM	Vitals
10:13 PM	Vitals
10:14 PM	Treatment
10:14 PM	Vitals
10:17 PM	Treatment
10:17 PM	Vitals
10:17 PM	Treatment
10:17 PM	Vitals
10:18 PM	Treatment
10:18 PM	Vitals
10:49 PM	Treatment
10:49 PM	Vitals
12:00 AM	Purchase
12:00 AM	Purchase
12:15 AM	Treatment
12:15 AM	Vitals
12:16 AM	Treatment
12:16 AM	Vitals
12:16 AM	Treatment
12:16 AM	Vitals
12:16 AM	Treatment
12:16 AM	Vitals
12:17 AM	Treatment
12:17 AM	Treatment
12:17 AM	Vitals
12:18 AM	Treatment
12:18 AM	Vitals
12:45 AM	Treatment
12:45 AM	Vitals

B6

B6

Client:
Patient:

B6

Patient History

01:12 AM	Treatment
01:12 AM	Vitals
01:12 AM	Vitals
01:12 AM	Treatment
01:12 AM	Vitals
02:07 AM	Treatment
02:07 AM	Vitals
02:57 AM	Treatment
02:57 AM	Vitals
02:57 AM	Vitals
03:08 AM	Treatment
03:08 AM	Vitals
03:09 AM	Treatment
03:09 AM	Vitals
03:09 AM	Treatment
03:09 AM	Vitals
03:09 AM	Treatment
03:16 AM	Treatment
03:16 AM	Vitals
03:16 AM	Vitals
04:00 AM	Treatment
04:00 AM	Vitals
04:00 AM	Treatment
04:00 AM	Vitals
04:16 AM	Vitals
04:57 AM	Treatment
04:57 AM	Vitals
06:02 AM	Treatment
06:02 AM	Vitals
06:02 AM	Treatment
06:02 AM	Vitals
06:52 AM	Treatment
06:52 AM	Vitals
06:52 AM	Vitals
06:52 AM	Treatment
06:52 AM	Vitals
06:53 AM	Treatment
06:53 AM	Vitals
06:53 AM	Treatment
06:53 AM	Vitals
06:54 AM	Treatment
06:54 AM	Vitals
07:53 AM	Treatment
07:53 AM	Vitals
08:45 AM	Purchase
09:12 AM	Vitals
09:22 AM	Treatment
09:33 AM	Treatment

B6

B6

Client:
Patient:

B6

Patient History

09:33 AM	Vitals
09:33 AM	Treatment
09:33 AM	Vitals
09:33 AM	Treatment
09:33 AM	Vitals
09:33 AM	Treatment
09:33 AM	Vitals
09:36 AM	Prescription
09:37 AM	Purchase
09:45 AM	Prescription
10:50 AM	Treatment
10:50 AM	Vitals
10:54 AM	Vitals
11:02 AM	Treatment
11:02 AM	Vitals
11:13 AM	Treatment
11:13 AM	Vitals
11:18 AM	Treatment
11:18 AM	Treatment
11:21 AM	Treatment
11:21 AM	Vitals
11:22 AM	Treatment
11:22 AM	Vitals
12:02 PM	Purchase
01:22 PM	Treatment
01:22 PM	Vitals
01:23 PM	Treatment
01:23 PM	Vitals
01:58 PM	Treatment
01:58 PM	Vitals
02:16 PM	Vitals
02:17 PM	Vitals
02:49 PM	Treatment
02:49 PM	Vitals
03:47 PM	Treatment
03:55 PM	Treatment
03:55 PM	Treatment
03:55 PM	Vitals
03:56 PM	Treatment
03:56 PM	Vitals
03:56 PM	Treatment
03:56 PM	Vitals
04:14 PM	Treatment
04:14 PM	Vitals
04:16 PM	Treatment

B6

B6

Client:
Patient:

B6

Patient History

04:16 PM	Vitals
04:27 PM	Vitals
04:57 PM	Treatment
04:57 PM	Vitals
05:06 PM	Prescription
05:07 PM	Prescription
05:09 PM	Prescription
05:10 PM	Vitals
05:14 PM	Treatment
05:14 PM	Vitals
05:14 PM	Vitals
05:17 PM	Treatment
05:29 PM	Treatment
05:29 PM	Vitals
05:29 PM	Treatment
05:29 PM	Vitals
05:56 PM	Treatment
05:56 PM	Vitals
06:37 PM	Treatment
06:37 PM	Vitals
07:15 PM	Vitals
07:36 PM	Treatment
07:36 PM	Treatment
07:39 PM	Treatment
07:39 PM	Treatment
07:39 PM	Vitals
07:41 PM	Treatment
07:41 PM	Vitals
07:43 PM	Treatment
07:43 PM	Vitals
08:23 PM	Treatment
08:23 PM	Vitals
08:59 PM	Treatment
09:23 PM	Treatment
09:23 PM	Vitals
09:28 PM	Treatment
09:28 PM	Vitals
09:28 PM	Treatment
09:28 PM	Vitals
10:10 PM	Treatment
10:10 PM	Vitals
11:20 PM	Treatment
11:20 PM	Vitals
11:38 PM	Treatment
11:38 PM	Vitals
11:38 PM	Treatment

B6

B6

Client:
Patient:

B6

Patient History

	11:42 PM	Treatment
	11:42 PM	Vitals
	12:00 AM	Purchase
	12:00 AM	Purchase
	12:12 AM	Treatment
	12:12 AM	Vitals
	12:13 AM	Treatment
	12:13 AM	Vitals
	01:07 AM	Treatment
	01:07 AM	Vitals
	01:48 AM	Treatment
	01:48 AM	Vitals
	01:48 AM	Treatment
	01:48 AM	Vitals
	02:07 AM	Treatment
	02:07 AM	Vitals
	03:07 AM	Treatment
	03:07 AM	Vitals
	03:08 AM	Treatment
	03:08 AM	Vitals
	03:10 AM	Treatment
	03:10 AM	Vitals
B6	03:12 AM	Treatment
	03:12 AM	Vitals
	03:55 AM	Treatment
	03:55 AM	Treatment
	03:55 AM	Vitals
	03:55 AM	Treatment
	03:55 AM	Vitals
	04:48 AM	Treatment
	04:50 AM	Treatment
	04:50 AM	Vitals
	05:05 AM	Treatment
	05:05 AM	Vitals
	05:30 AM	Vitals
	05:30 AM	Treatment
	05:30 AM	Vitals
	05:30 AM	Treatment
	05:30 AM	Vitals
	08:52 AM	Treatment
	08:52 AM	Vitals
	08:53 AM	Treatment
	08:53 AM	Treatment
	08:53 AM	Vitals
	08:53 AM	Treatment
	08:53 AM	Vitals

B6

Client:
Patient:

B6

Patient History

08:58 AM	Treatment
08:58 AM	Vitals
08:59 AM	Vitals
09:08 AM	Vitals
09:39 AM	Purchase
09:46 AM	Treatment
09:46 AM	Treatment
09:46 AM	Vitals
11:15 AM	Treatment
11:15 AM	Treatment
11:15 AM	Vitals
11:48 AM	Prescription
12:02 PM	Purchase
12:30 PM	Treatment
12:30 PM	Vitals
12:30 PM	Vitals
12:30 PM	Vitals
12:30 PM	Vitals
12:30 PM	Vitals
12:30 PM	Vitals
12:30 PM	Vitals
12:30 PM	Vitals
12:31 PM	Treatment
12:31 PM	Vitals
03:13 PM	Treatment
03:13 PM	Vitals
03:14 PM	Treatment
03:14 PM	Vitals
03:17 PM	Treatment
03:17 PM	Vitals
05:42 PM	Prescription
06:20 PM	Prescription
06:25 PM	Treatment
07:29 PM	Treatment
07:29 PM	Treatment

B6

B6

Client:
Patient:

B6

Patient History

07:29 PM	Treatment
07:29 PM	Vitals
07:31 PM	Treatment
07:31 PM	Vitals
07:31 PM	Treatment
09:15 PM	Treatment
09:15 PM	Vitals
09:35 PM	Vitals
11:11 PM	Treatment
11:11 PM	Vitals
11:11 PM	Treatment
11:11 PM	Vitals
12:00 AM	Purchase
12:00 AM	Purchase
02:01 AM	Vitals
03:30 AM	Treatment
03:30 AM	Vitals
03:31 AM	Treatment
03:32 AM	Treatment
03:32 AM	Vitals
03:39 AM	Treatment
03:39 AM	Vitals
07:39 AM	Vitals
07:40 AM	Treatment
07:40 AM	Vitals
07:41 AM	Treatment
07:41 AM	Vitals
08:38 AM	Treatment
09:11 AM	Treatment
09:43 AM	Treatment
09:43 AM	Vitals
09:43 AM	Treatment
09:43 AM	Vitals
09:47 AM	Treatment
09:47 AM	Vitals
09:50 AM	Treatment
09:50 AM	Vitals
10:42 AM	Treatment
10:42 AM	Vitals
10:42 AM	Treatment
10:42 AM	Vitals
11:41 AM	Prescription
11:59 AM	Treatment

B6

B6

Client:
Patient:

B6

Patient History

11:59 AM	Vitals
12:02 PM	Purchase
12:10 PM	Purchase
12:51 PM	Treatment
12:51 PM	Treatment
12:51 PM	Vitals
12:51 PM	Vitals
01:44 PM	Treatment
01:44 PM	Vitals
01:44 PM	Treatment
01:44 PM	Vitals
01:55 PM	Treatment
01:55 PM	Vitals
01:56 PM	Vitals
02:02 PM	Treatment
02:02 PM	Treatment
02:02 PM	Vitals
02:08 PM	Treatment
03:28 PM	Treatment
03:28 PM	Vitals
03:28 PM	Treatment
03:28 PM	Vitals
03:28 PM	Vitals
03:28 PM	Vitals
03:30 PM	Treatment
03:30 PM	Vitals
05:18 PM	Treatment
05:18 PM	Vitals
05:18 PM	Treatment
05:18 PM	Vitals
05:44 PM	Treatment
05:44 PM	Vitals
05:44 PM	Treatment
07:44 PM	Treatment
07:45 PM	Treatment
07:45 PM	Treatment
07:45 PM	Vitals
07:45 PM	Vitals
07:46 PM	Treatment
07:46 PM	Vitals
09:29 PM	Treatment
09:29 PM	Vitals

B6

B6

Client:

B6

Patient:

Patient History

B6	10:19 PM	Treatment	B6
	10:19 PM	Vitals	
	10:19 PM	Treatment	
	10:19 PM	Vitals	
	10:24 PM	Treatment	
	10:24 PM	Treatment	
	10:24 PM	Vitals	
	10:24 PM	Treatment	
	10:24 PM	Vitals	
	10:29 PM	Vitals	
	10:29 PM	Vitals	
	11:16 PM	Vitals	
	11:44 PM	Treatment	
	11:44 PM	Vitals	
	11:44 PM	Vitals	
	11:45 PM	Treatment	
	12:00 AM	Purchase	
	12:00 AM	Purchase	
	12:20 AM	Treatment	
	12:23 AM	Treatment	
	12:23 AM	Vitals	
	01:19 AM	Treatment	
	01:19 AM	Vitals	
	01:20 AM	Treatment	
	01:20 AM	Vitals	
	01:20 AM	Treatment	
	01:20 AM	Vitals	
	03:18 AM	Treatment	
	03:18 AM	Vitals	
	03:18 AM	Vitals	
	03:24 AM	Treatment	
	03:24 AM	Vitals	
	05:19 AM	Treatment	
	05:19 AM	Vitals	
	05:20 AM	Treatment	
	05:20 AM	Vitals	
	05:20 AM	Treatment	
	05:20 AM	Vitals	
	08:03 AM	Treatment	
	08:03 AM	Vitals	
	08:03 AM	Treatment	
	08:03 AM	Vitals	
	08:36 AM	Treatment	
	08:36 AM	Vitals	

Client:
Patient:

B6

Patient History

B6	08:37 AM	Treatment	B6
	08:37 AM	Vitals	
	08:37 AM	Vitals	
	08:40 AM	Treatment	
	08:40 AM	Treatment	
	09:15 AM	Treatment	
	09:15 AM	Vitals	
	09:17 AM	Treatment	
	10:03 AM	Treatment	
	10:03 AM	Treatment	
	10:03 AM	Vitals	
	11:20 AM	Treatment	
	11:20 AM	Vitals	
	11:21 AM	Treatment	
	11:21 AM	Vitals	
	11:21 AM	Vitals	
	11:28 AM	Treatment	
	11:28 AM	Vitals	
	11:34 AM	Purchase	
	11:35 AM	Treatment	
	11:39 AM	Treatment	
	11:39 AM	Vitals	
	11:54 AM	Purchase	
	12:02 PM	Purchase	
	01:26 PM	Treatment	
	01:26 PM	Vitals	
	01:27 PM	Treatment	
	01:27 PM	Vitals	
	02:23 PM	UserForm	
	03:40 PM	Prescription	
	03:40 PM	Prescription	
	03:41 PM	Prescription	
	03:41 PM	Purchase	
	04:02 PM	Treatment	
	04:02 PM	Vitals	
	04:02 PM	Vitals	
	04:14 PM	Purchase	
	04:15 PM	Treatment	
	05:02 PM	Prescription	
	05:37 PM	Task	

Client:
Patient:

B6

Patient History

B6	12:25 PM	Purchase
	12:30 PM	Prescription
	01:23 PM	Email
	01:23 PM	UserForm
	03:57 PM	Appointment
	04:00 PM	Appointment
	04:01 PM	Appointment
	08:00 AM	UserForm
	08:01 AM	UserForm
	01:18 PM	Treatment
	01:31 PM	UserForm
	01:48 PM	Vitals
	01:50 PM	Purchase
	02:27 PM	UserForm
	02:57 PM	Appointment
	02:58 PM	Prescription
	04:34 PM	Purchase
	04:34 PM	Purchase

B6

Best Available Copy

Best Available Copy

B6

B6

Male (Neutered)

Canine Golden Retriever Golden

Patient ID: **B6**

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

Owner's address

Owner's Name Signature

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

B6

Male (Neutered)

Canine Golden Retriever Golden

Patient ID: **B6**

STANDARD CONSENT FORM

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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:

Owner's address:

Owner's Name Signature

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

Treatment Plan

Foster Hospital for Small Animals
 55 Willard Street
 North Grafton, MA 01536
 (508) 839-5395
<http://vetmed.tufts.edu/>

Estimated Charges
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.

Patient	Description	Estimated Charges
B6	Hospitalization, monitoring and supportive care, IV fluids and medications, oxygen support, radiographs, surgery if indicated	B6

B6

Doctor of Record: **B6**

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 treatments are 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
 Low Total
 75% Deposit
B6

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) 839-8739
<http://vetmed.tufts.edu/>

Radiology Request & Report

Patient**Name:** B6**Species:** Canine**Golden Male (Neutered) Golden****Retriever****Birthdate:** B6**Owner****Name:** B6**Address:** B6**Patient ID:** B6**Date of request:** B6**Attending Clinician:** B6 (Resident, Emergency & Critical Care)**Student:**

DUPLICATE FORM**Date of exam:** B6**Patient Location: Ward/Cage:** ICU R2**Weight (kg)** 36.00**Sedation**

- ☒ Inpatient
- ☐ Outpatient Time:
- ☐ Waiting
- ☐ Emergency

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

Examination Desired:

three view thorax

Presenting Complaint and Clinical Questions you wish to answer:

Emergency - presented with upper airway obstruction, potential tieback today

Pertinent History:**Findings:****Conclusions:****Radiologists****Primary:****Reviewing:****Dates****Reported:****Finalized:**

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B6

B6

Male (Neutered)

Canine Golden Retriever Golden

B6

Biopsy Request

Doctor to serve as contact: B6

(if primary contact is not available during business hours, provide a secondary contact, as well)

Phone/caller: B6

Email: B6@tufts.edu

Total # of anatomic sites sampled (each site will be charged separately): 1

Total # of separate containers submitted: 1

Images sent to pathpics@tufts.edu?

☐ Yes

☒ No

CASE SUMMARY (CONCISE DESCRIPTION of time sequence, therapy, summary of abnormal clinical pathology and diagnostic imaging lesion size, margin labels/orientation if relevant):

mass at base of tongue on left side

acute onset gagging and nasal discharge at home followed by acute respiratory crisis and admitted here

FNA performed as well

CLINICAL DIAGNOSES/DIFFERENTIALS:

abscess vs. neoplasia

CONTAINER 1. (In addition to site specific history include number of tissue pieces):

CONTAINER 2. (In addition to site specific history include number of tissue pieces):

CONTAINER 3. (In addition to site specific history include number of tissue pieces):

Best Available Copy

CT Request & Report

Patient

Name: B6

Species: Canine

Golden Male (Neutered) Golden

Retriever

Birthdate: B6

Owner

Name: B6

Address: B6

Patient ID: B6

Date of request: B6

Attending Clinician: B6 (Resident, Emergency & Critical Care)

Student:

Date of exam: B6

Patient Location: Ward/Cage: ICU R 2

Weight (kg) 36.00

Scheduling and Patient Notes: (waiting for chemo, procedure, needs cysto etc.)

Examination Desired: CT head and thorax

Sedation

- ☒ Anesthesia to sedate/anesthetize
- ☐ DexDomitor/Butorphanol
- ☐ Autoanesthesia

Presenting Complaint and Clinical Questions you wish to answer: Emergency mass left side of base of tongue - potential surgical explore post CT
poss lesion right caudal lung lobe

Pertinent History:

several day history increased respiratory noise and gagging, presented in severe respiratory distress and required emergent intubation B6 FNA consistent with abscess B6

Protocol:

Volume data of the head and thorax was acquired (with slice thickness = 3mm) before and after administration of contrast (XmL Iohexol IV). Images were reconstructed in bone, lung, and soft-tissue algorithms in sagittal, transverse and dorsal planes.

Findings:

B6

B6

Conclusions:

Mass associated with the left side of the base of the tongue with regional cellulitis may represent abscess or abscessed neoplasm (squamous cell carcinoma, melanoma, round cell). Mild left mandibular lymphadenopathy may be reactive or neoplastic. No evidence of pulmonary metastatic disease.

Procedures:

Aspiration of the tongue mass was performed with no immediate complications

Radiologists

Primary: B6 DVM

Reviewing: B6 MV, DACVR

Dates

Reported: B6

Finalized:

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AT TUFTS UNIVERSITY

Emergency & Critical Care Liaison: (508) 887 - 4745

Foster Hospital for Small Animals
55 Willard Street
North Grafton, MA 01536
Telephone (508) 839-5395
Fax (508) 839-8739
<http://vetmed.tufts.edu/>

Patient

Name: B6

Signalment: B6 Years Old Golden Male
(Neutered) Golden Retriever

Patient ID: B6

Clinician: B6 (Resident, Emergency & Critical Care)

Clinician: B6 (Resident, cardiology)

Owner

Name:

Address:

B6

ER Submission:

B6

Discharge Instructions

Admit Date: B6 1055:12 PM

Check Out Date: B6

Case Summary

Diagnosis:

1. Respiratory crisis due to airway swelling
2. Swelling at the base of his tongue on the left side, either from an infection, inflammation or an underlying mass/cancer
3. Aspiration Pneumonia

B6

B6

B6

Recheck Visits:

A recheck is recommended in about 10 days with **B6** or sooner if you have concerns. Please call 508 887 4745 to schedule this appointment. At this visit we would like to check his breathing and recheck his chest x-rays. We have sent home 2 weeks of antibiotic medications, but may want to continue for longer pending how he is doing and how his x-rays look.

Thank you for allowing us to participate in [B6] care. He is such a sweet boy and we hope that he feels good at home!

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

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Radiology Request & Report

Patient**Name:** B6**Species:** Canine

Golden Male (Neutered) Golden

Retriever

Birthdate: B6**Owner****Name:** B6**Address:** B6**Patient ID:** B6**Date of request:** B6**Attending Clinician:** B6**Student:****Date of exam:** B6**Patient Location:** Ward/Cage: A run**Weight (kg):** 36.00**Sedation**

- ☒ Inpatient
- ☐ Outpatient Time:
- ☐ Waiting
- ☐ Emergency

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

Examination Desired:

3 view chest- Tech only please, dog has upper airway mass and has trouble breathing with excitement

Presenting Complaint and Clinical Questions you wish to answer:

Panting, nasal discharge, gagging/retching at home

Was at rDVM, then came here in pm with severe respiratory distress

rDVM tx'd for presumptive tongue abscess with B6

intubated here (with difficulty) and maintained on table for several hours before extubating

re-intubated the next day for sedated oral exam

Report from anesthesia is that they could visualize arytenoids

Slow improvement, failed owner visit B6 and was re-sedated, settled well

Fever last night, but otherwise clinically doing well. Reportedly may have aspirated during initial events.

Pertinent History:

B6

Conclusions:

Changes to the left cranial lung lobe are most consistent with aspiration pneumonia. Follow up radiographs can be considered to monitor for progression/resolution

Radiologists

Primary: [B6] V18

Reviewing: [B6] DVM, DACVR

Dates

Reported: [B6]

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Radiology Request & Report

Patient**Name:** B6**Species:** Canine**Golden Male (Neutered) Golden****Retriever****Birthdate:** B6**Owner****Name:** B6**Address:** B6**Patient ID:** B6**Date of request:** B6**Attending Clinician:** B6 DVM (Intern, Emergency and Critical Care)**Student:****Date of exam:** B6**Patient Location:** Ward/Cage: icu**Weight (kg)** 36.00

- ☒ Inpatient
☐ Outpatient Time:
☐ Waiting
☐ Emergency

Sedation

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

Examination Desired: Thorax 3 view**Presenting Complaint and Clinical Questions you wish to answer:**

Emergency

Pertinent History: Acute inspiratory crisis (suspect larynx vs oral mass) overnight

B6

Conclusions:

- Caudodorsal gas lucency may represent atypical duodenal gas on the DV, and gastric gas on the left lateral; however the possibility of pulmonary localization cannot be excluded. In the latter case, a

pulmonary abscess or mass with central necrosis could be considered, although no soft tissue component is identified. Thoracic CT or follow-up radiographs may be considered for further evaluation.

- Normal cardiovascular structures.

A cause for acute inspiratory dyspnea is not identified.

Radiologists

Primary: [B6], DVM

Reviewing: [B6], DVM, DACVR

Dates

Reported: [B6]

Finalized: [B6]

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55 Willard Street
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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 Gold Male
(Neutered) Golden Retriever

Owner

Name:

Address:

B6

Patient ID:

B6

Emergency Clinician:

B6

DVM (Emergency and Critical Care Resident)

Consulting Clinician:

DOB/Signatures:

B6

Discharge Instructions

Admit Date: B6 11:22:13 AM

Check Out Date: B6

Case Summary

Diagnosis:

1. Lethargy: open diagnosis
2. Moist dermatitis, left tail base
3. New heart murmur: open diagnosis

Case Summary:

Thank you for bringing B6 to Tufts University Emergency Service for evaluation of lethargy and a hot spot on the tail base. On examination, B6 had normal vital parameters and a normal examination aside from a low grade heart murmur and a large hot spot on the tail base. We discussed that B6 lethargy is unlikely cardiac related and that further workup would start with repeat bloodwork (CBC/chemistry/urinalysis), which you elected to hold on for now.

B6 was discharged with antibiotics to treat his skin infection and you should follow up with your primary care veterinarian if B6 remains lethargic.

Patient Care Instructions:

1. MONITORING: Please monitor for any signs of worsening, including severe lethargy, lack of appetite, vomiting, diarrhea and call if noted.

Medications:

New medications:

B6

Start today

Recheck Visits: No recheck in the ER is necessary unless B6 is not doing well at home.

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

Gold Male (Neutered) Golden Retriever

Birthdate: B6

Owner

Name: B6

Address:

B6

Patient ID: B6

Attending Cardiologist:

B6

Cardiology Resident:

B6

Cardiology Technician:

B6

Veterinary Nutritionist: Dr. Lisa Freeman

Student: B6 V19

Admit Date: B6 1:06:44 PM

Discharge Date: B6

Diagnoses: Dilated cardiomyopathy (DCM), Suspect mild concurrent Degenerative Mitral Valve Disease

Case Summary:

Thank you for bringing B6 to Tufts Cardiology Service for evaluation of his newly found heart murmur. On echocardiogram, we found that he does have Dilated Cardiomyopathy or 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. Thankfully, we did not see any arrhythmias on his ECG today. Additionally, we saw a moderate amount of regurgitation coming from the mitral valve. This is a common heart disease in dogs, where the heart valve thickens with age, resulting in a leak. As the leak continues, we may see worsening of the heart enlargement in the future. Signs for congestive heart failure (fluid in the lungs) will be difficulty breathing, coughing, increased breathing rate. If you notice that B6 breathing rate is faster than normal at home we will want to have chest x-rays taken. We would like to adjust B6 diet and we provided some dietary recommendations below.

Diagnostic test results and findings:

- **Echocardiogram findings:** The walls of the chambers of his heart are thinner than normal and he has reduced contractile function. The left ventricle and left atrium are dilated. The mitral valve has a moderate amount of regurgitation.
- **ECG findings:** The ECG was unremarkable - no arrhythmias
- **Labwork findings:** We will call you when we have the results of his bloodwork. Most of it should come back

tomorrow, but some of it will take a week or so to return.

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.
- 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.). 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)

Purina Pro Plan Adult Weight Management

Purina Pro Plan Bright Mind Adult Small Breed Formula

lams Chunks

Canned Food Options:

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

Royal Canin Mature 3+

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:

We recommend limited activity. Leash walking only is ideal, and short walks to start. Repetitive or strenuous high energy activities (repetitive ball chasing, running fast off-leash, etc.) are generally not advised.

Recheck Visits:

Thank you for enrolling B6 in our clinical study.

B6 is supposed to have an appointment here at Tufts in about 3 months - We have an appointment for him scheduled on May 9th at 10AM. We will perform an echo, ECG and bloodwork at this time.

Thank you for entrusting us with B6 care! It was a pleasure to meet you all today and he was a very 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:

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Ordering Food:

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Case B6

Owner B6

Discharge Instructions

Cummings

Veterinary Medical Center

AT TUFTS UNIVERSITY

Cardiology Liaison: 508-887-4696

duplicate

B6

Patient ID: **B6**

B6

Canine

B6

Years Old Male (Neutered) Golden Retriever

Gold

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/>

Discharge Instructions

Patient**Name:** B6**Species:** Canine**Gold Male (Neutered) Golden Retriever****Birthdate:** B6**Owner****Name:** B6**Address:** B6**Patient ID:** B6**Duplicate**

B6

Patient ID: B6
B6 Canine
B6 Years Old Male (Neutered) Golden Retriever
Gold

Cardiology Appointment Report

Date: B6

Attending Cardiologist:

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

B6

Cardiology Resident:

B6

Cardiology Technician:

B6

Student: B6 V19

Presenting Complaint:

RDVM yearly revealed B6 heart murmur

B6 echo- DCM with 2+ mitral regurgitation 1+ tricuspid regurgitation and mild pulmonic insufficiency

ER B6 for profound lethargy- declined diagnostics but wanted to see cardio sooner than scheduled appointment, diagnosed with hot spot on tail and rx B6 PO BID but owner didn't read label right and has been giving 500mg PO BID instead

Whole life on grain free diet

Put on a lot of weight within 2018 (84lbs in December, 80lbs today), decreased activity (secondary to owner injury vs. B6 less excited for fetching, still goes on 1-2.5mile walk) - rdvm records low normal thyroid level

Concurrent Diseases:

On prozac for anxiety

Developing cataract OS

General Medical History:

Attacked in face by other dog at agility class prior to adoption (1 yo)

Arthritis in RF elbow

Spastic episodes, jerky motions while sleeping, almost every night, started in the last year

Diet and Supplements:

B6

Cardiovascular History:

Prior CHF diagnosis? No

Prior heart murmur? II/VI diagnosed in December 2018

Prior ATE? No

Prior arrhythmia? No

Monitoring respiratory rate and effort at home? No

Cough? No

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: NSF

MM Color and CRT: pink, moist,

CRT <2 sec

BCS (1-9): 7

BW (kg): 36.3

Heart rate: 90

Respiratory rate: panting

Temp (if possible):

Muscle condition:

☒ Normal

☐ Mild muscle loss

☐ Moderate cachexia

☐ Marked cachexia

Cardiovascular Physical Exam:

Murmur Grade:

☐ None

☐ I/VI

☒ II/VI to

☒ III/VI

☐ IV/VI

☐ V/VI

☐ VI/VI

Murmur location/description: Left heart apex

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: Faint

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:

Murmur and prior dx of DCM
Here for diet study

Diagnostic plan:

- ☒ Echocardiogram +/- other testing
- ☒ Chemistry profile
- ☒ ECG
- ☐ Renal profile
- ☐ Blood pressure

- ☐ Dialysis profile
- ☐ Thoracic radiographs
- ☒ NT-proBNP
- ☒ Troponin I
- ☒ Other tests:

Echocardiogram Findings:

General/2-D findings:

Heart rate is 90-100 sinus rhythm. Dilated hypocontractile LV. The LV walls are thin. Increased EPSS. The LA is moderately enlarged. The RH is mild to moderately enlarged. No pleural or pericardial effusion. There is still rotational motion to the LV near the apex. The MV is +/- thick. Aortic outflow tract is ok. PA is normal to mildly enlarged. Hepatic veins are normal to mildly distended. There is no ascites.

Doppler findings:

1-2+ MR, posterior directed jet
The TR velocity is normal.

Mitral inflow:

- ☐ Summated
- ☒ Normal
- ☐ Delayed relaxation

- ☐ Pseudonormal
- ☐ Restrictive

ECG findings:

NSR, 95 bpm, tall QRS compatible with LVE

Assessment and recommendations:

Echocardiogram reveals DCM with significant MR (which could also indicate a component of DMVD). Recommend starting pimobendan 10mg BID. Taurine blood levels were submitted, and recommend supplementing taurine until results come back. Recommend changing diet to RC Early Cardiac or similar diet on the list. NT-proBNP, troponin, CBC/chem were submitted. Patient was enrolled in DCM Study. Recheck echo and blood work for study in 3, 6, and 9 months.

Final Diagnosis:

DCM with a component of DMVD

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	<div>B6</div>	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	<div>B6</div>	(0.290 - 0.520) !
LVIDdN		(1.350 - 1.730) !

LVPWdN
IVSsN
LVIDsN
LVPWsN
Ao Diam N
LA Diam N

B6

(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
LVld LAX
LVAd LAX
LVEDV A-L LAX
LVEDV MOD LAX
LVls LAX
LVAs 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
R-R
HR
CO A-L LAX
CO MOD LAX

B6

cm
cm

cm
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cm
ml
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cm
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cm
ml
ml
BPM
%
%
ml
ml
l/min
l/min
ms
BPM
l/min
l/min

Doppler

MR Vmax
MR maxPG
MVE Vel

B6

m/s
mmHg
m/s

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

ms
m/s
m/s

m/s

m/s
m/s
m/s
mmHg
m/s
mmHg
m/s
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) 839-8739
<http://vetmed.tufts.edu/>
Referring Vet Direct Line 508-887-4988

Notice of Patient Admit

Date: B6 10:55:12 PM
Referring Doctor: B6
Client Name: B6
Patient Name: B6

Case No: B6

Dear B6,

Your patient presented to our Emergency service. Please make note of the following information to facilitate communication with our team.

The attending doctor is: B6

The reason for admission to the FHSA is: resp distress, larpar, possible lingual abscess

If you have any questions regarding this particular case, please call 508-887-4988 to reach the ECC Service. Information is updated daily, by noon.

Thank you for your referral to our Emergency Service.

Cummings
Veterinary Medical Center
AT TUFTS UNIVERSITY

B6

Foster Hospital for Small Animals
55 Willard Street
North Grafton, MA 01536
Telephone (508) 839-5395
Fax (508) 839-8739
<http://vetmed.tufts.edu/>

B6

Male (Neutered)

Canine Golden Retriever Golden

B6

B6

Dear B6

Thank you for referring B6 with their pet B6. Please see attached discharges for further information.

If you have any questions, or concerns, please contact us at 508-887-4988.

Thank you,

B6 (Resident, Emergency & Critical Care)

Cummings
Veterinary Medical Center
AT TUFTS UNIVERSITY

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North Grafton, MA 01536
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Fax (508) 839-8739
<http://vetmed.tufts.edu/>

B6

B6

Male (Neutered)

Canine Golden Retriever Golden

B6

B6

Dear B6

Thank you for referring B6 with their pet B6. He presented with respiratory distress and required intubation and a brief period of ventilation. A mass was noted below his tongue, which was further evaluated with CT, cytology, and biopsies. The findings were consistent with inflammation and possible infection, but no neoplastic cells were seen. The owners would not pursue chemotherapy or radiation regardless, so we are treating conservatively with antibiotics and antiinflammatories. The surgical team did not feel that the area of swelling was something that they could address surgically. B6 did well with supportive care in the hospital. He left the hospital on Monday and has been reportedly breathing very well at home. If his trouble breathing recurs the owner may elect to repeat a CT or biopsies to see if we get a different result, but hopefully he will continue to do well.

If you have any questions, or concerns, please contact us at 508-887-4988.

Thank you,

B6

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 Golden Retriever Gold

B6

B6

Dear

B6

B6 was presented to the Tufts Emergency Service for evaluation of lethargy that started yesterday. Examination was normal aside from a low grade heart murmur (no arrhythmia, no concern for CHF) and hot spot on the tail base. The client wished for a cardiology consult on emergency today, which could not be accommodated. Recheck bloodwork was offered, given the change in clinical status, which the client declined. We elected to treat his hot spot with cephalexin and he was discharged home to monitor and await his scheduled cardio consult.

If you have any questions, or concerns, please contact us at 508-887-4988.

Thank you,

B6

DVM (Emergency and Critical Care Resident)

Cummings
Veterinary Medical Center
AT TUFTS UNIVERSITY

B6

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

Male (Neutered)

Canine Golden Retriever Gold

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,

John Rush DVM, DACVIM (Cardiology), DACVECC

Report Details - EON-380709																							
ICSR:	2063117																						
Type Of Submission:	Initial																						
Report Version:	FPSR.FDA.PETF.V.V1																						
Type Of Report:	Adverse Event (a symptom, reaction or disease associated with the product)																						
Reporting Type:	Voluntary																						
Report Submission Date:	2019-02-24 17:31:22 EST																						
Reported Problem:	<p>Problem Description: Murmur and arrhythmia ausculted by RDVM. Echoed by another cardiologist who referred to us for study. Eating Fromm Lg Breed Adult (not grain free) so unclear if diet related. Screened other 2 standard poodles in household eating same diet and their hearts were fine. Owners have changed diet for all 3 dogs to Iams MiniChunks and we will recheck in 3 months</p> <p>Date Problem Started: 01/29/2019</p> <p>Concurrent Medical Problem: Yes</p> <p>Pre Existing Conditions: Degenerative myelopathy, arthritis, elevated liver enzymes, multiple skin masses</p> <p>Outcome to Date: Stable</p>																						
Product Information:	<p>Product Name: Fromm Large Breed Adult dry</p> <p>Product Type: Pet Food</p> <p>Lot Number:</p> <p>Package Type: BAG</p> <p>Product Use Information: Description: Please see diet history for additional details</p> <p>Manufacturer /Distributor Information:</p> <p>Purchase Location Information:</p>																						
Animal Information:	<p>Name: B6</p> <p>Type Of Species: Dog</p> <p>Type Of Breed: Poodle - Standard</p> <p>Gender: Male</p> <p>Reproductive Status: Neutered</p> <p>Weight: 24 Kilogram</p> <p>Age: 16 Years</p> <p>Assessment of Prior Health: Good</p> <p>Number of Animals Given the Product: 3</p> <p>Number of Animals Reacted: 1</p> <p>Owner Information:</p> <table border="1"> <tr> <td>Owner Information provided:</td> <td colspan="3">Yes</td> </tr> <tr> <td>Contact:</td> <td>Name:</td> <td colspan="2">B6</td> </tr> <tr> <td></td> <td>Phone:</td> <td colspan="2">B6</td> </tr> <tr> <td></td> <td>Email:</td> <td colspan="2">B6</td> </tr> <tr> <td>Address:</td> <td colspan="3"> <div style="border: 1px solid black; padding: 10px; font-size: 2em; text-align: center;">B6</div> United States </td> </tr> </table> <p>Healthcare Professional Information:</p> <p>Practice Name: Tufts Cummings School of Veterinary Medicine</p> <p>Contact: Name: Lisa Freeman</p>			Owner Information provided:	Yes			Contact:	Name:	B6			Phone:	B6			Email:	B6		Address:	<div style="border: 1px solid black; padding: 10px; font-size: 2em; text-align: center;">B6</div> United States		
Owner Information provided:	Yes																						
Contact:	Name:	B6																					
	Phone:	B6																					
	Email:	B6																					
Address:	<div style="border: 1px solid black; padding: 10px; font-size: 2em; text-align: center;">B6</div> United States																						

			Phone: (508) 887-4523
			Email: lisa.freeman@tufts.edu
		Address:	200 Westboro Rd North Grafton Massachusetts 01536 United States
Sender Information:	Name:	Lisa Freeman	
	Address:	200 Westboro Rd North Grafton Massachusetts 01536 United States	
	Contact:	Phone:	5088874523
		Email:	lisa.freeman@tufts.edu
	Permission To Contact Sender:	Yes	
	Preferred Method Of Contact:	Email	
Additional Documents:	Attachment:	rpt_medical_record_preview.pdf	
	Description:	Medical records	
	Type:	Medical Records	

Report Details - EON-380706				
ICSR:	2063113			
Type Of Submission:	Initial			
Report Version:	FPSR.FDA.PETF.V.V1			
Type Of Report:	Adverse Event (a symptom, reaction or disease associated with the product)			
Reporting Type:	Voluntary			
Report Submission Date:	2019-02-24 16:24:11 EST			
Reported Problem:	Problem Description:	Had pneumonia in September 2018; re-presented in December 2018 when arrhythmias were noted. Cardiology consult identified arrhythmias and reduced contractile function (and eating BEG diet). Unclear whether this was primary problem or secondary to systemic illness. Rechecked by cardiology 2/5/19 and still had arrhythmia and reduced contractility. NT-proBNP and cTnI elevated. Owner already changed diet in January to Purina Pro Plan Chicken and Rice so will continue on this diet and will recheck in 3 months.		
	Date Problem Started:	12/22/2018		
	Concurrent Medical Problem:	Yes		
	Pre Existing Conditions:	Pneumonia Sept and Dec 2018		
	Outcome to Date:	Stable		
Product Information:	Product Name:	Poulin Pro Form Lamb and Rice Adult Maintenance Dry		
	Product Type:	Pet Food		
	Lot Number:			
	Package Type:	BAG		
	Product Use Information:	Description:	Please see diet history form for more details	
	Manufacturer /Distributor Information:			
	Purchase Location Information:			
Animal Information:	Name:	B6		
	Type Of Species:	Dog		
	Type Of Breed:	Irish Wolfhound		
	Gender:	Female		
	Reproductive Status:	Intact		
	Pregnancy Status:	Not Pregnant		
	Lactation Status:	Not lactating		
	Weight:	60.5 Kilogram		
	Age:	6 Years		
	Assessment of Prior Health:	Good		
	Number of Animals Given the Product:	1		
	Number of Animals Reacted:	1		
	Owner Information:	Owner Information provided:	Yes	
		Contact:	Name:	B6
			Phone:	B6
Email:			B6	
Address:		B6		

			B6 United States
	Healthcare Professional Information:	Practice Name:	Tufts Cummings School of Veterinary Medicine
		Contact:	Name: Lisa Freeman
			Phone: (508) 887-4523
			Email: lisa.freeman@tufts.edu
		Address:	200 Westboro Rd North Grafton Massachusetts 01536 United States
Sender Information:	Name:	Lisa Freeman	
	Address:	200 Westboro Rd North Grafton Massachusetts 01536 United States	
	Contact:	Phone:	5088874523
		Email:	lisa.freeman@tufts.edu
	Permission To Contact Sender:	Yes	
Preferred Method Of Contact:	Email		
Additional Documents:	Attachment:	cbc and profile.pdf	
	Description:	Will send by email	
	Type:	Medical Records	



Tufts Cummings School Of Veterinary Medicine

200 Westboro Road
North Grafton, MA 01536

DUPLICATE

Name/DOB:	B6	Sex:	F	Provider:	B6
Patient ID:	B6	Age:	6	Order Location:	B6 Investigation into
Phone number:		Species:	Canine	Sample ID:	B6
Collection Date:	B6 12:44 PM	Breed:	Irish Wolfhound		
Approval date:	B6 2:27 PM				

CBC, Comprehensive, Sm Animal (Research)

SLOPEZ		Ref. Range/Females
WBC (ADVIA)		4.40-15.10 K/uL
RBC (Advia)		5.80-8.50 M/uL
Hemoglobin (ADVIA)		13.3-20.5 g/dL
Hematocrit (Advia)	H	39-55 %
MCV (ADVIA)	B6	64.5-77.5 fL
MCH (ADVIA)		21.3-25.9 pg
CHCM		
MCHC (ADVIA)		31.9-34.3 g/dL
RDW (ADVIA)		11.9-15.2
Platelet Count (Advia)		173-486 K/uL
B6 2:26 PM	B6	platelets per 100x field (estimated count of 200,000-500,000/uL)
Mean Platelet Volume (Advia)	B6	8.29-13.20 fL
B6 1:09 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 %
B6 1:09 PM		Platelet Crit is invalid when clumped platelets are present.
		Interpretation of PltCt is unclear in species other than canines.
PDW		
Reticulocyte Count (Advia)	B6	0.20-1.60 %
Absolute Reticulocyte Count (Advia)		14.7-113.7 K/uL
CHr		
MCVr	B6	

Microscopic Exam of Blood Smear (Advia)

SLOPEZ		Ref. Range/Females
Seg Neuts (%)		43-86 %
Lymphocytes (%)		7-47 %
Monocytes (%)		1-15 %
Eosinophils (%)		0-16 %
Seg Neutrophils (Abs) Advia		2.800-11.500 K/uL
Lymphs (Abs) Advia	L	1.00-4.80 K/uL
Mono (Abs) Advia	B6	0.10-1.50 K/uL
Eosinophils (Abs) Advia		0.00-1.40 K/uL
WBC Morphology	B6	
Poikilocytosis	B6	

Research Chemistry Profile - Small Animal (Cobas)

Sample ID: B6
This report continues... (Final)

Reviewed by: _____



Tufts Cummings School Of Veterinary Medicine

200 Westboro Road
North Grafton, MA 01536

DUPLICATE

Name/DOB:	B6	Sex:	F	Provider:	B6
Patient ID:	B6	Age:	6	Order Location:	B6
Phone number:		Species:	Canine	Investigation into	
Collection Date:	B6 12:44 PM	Breed:	Irish Wolfhound	Sample ID:	B6
Approval date:	B6 2:27 PM				

Research Chemistry Profile - Small Animal (Cobas) (cont'd)

SMACHUNSKI

Glucose

Urea

Creatinine

Phosphorus

Calcium 2

Magnesium 2+

Total Protein

Albumin

Globulins

A/G Ratio

Sodium

Chloride

Potassium

tCO₂(Bicarb)

AGAP

NA/K

Total Bilirubin

Alkaline Phosphatase

GGT

ALT

AST

Creatine Kinase

Cholesterol

Triglycerides

Amylase

Osmolality (calculated)

Comments (Chemistry)

L
H

B6

L

B6

Ref. Range/Females

67-135 mg/dL

8-30 mg/dL

0.6-2.0 mg/dL

2.6-7.2 mg/dL

9.4-11.3 mg/dL

1.8-3.0 mEq/L

5.5-7.8 g/dL

2.8-4.0 g/dL

2.3-4.2 g/dL

0.7-1.6

140-150 mEq/L

106-116 mEq/L

3.7-5.4 mEq/L

14-28 mEq/L

8.0-19.0

29-40

0.10-0.30 mg/dL

12-127 U/L

0-10 U/L

14-86 U/L

9-54 U/L

22-422 U/L

82-355 mg/dL

30-338 mg/dl

409-1250 U/L

291-315 mmol/L

Sample ID: B6

REPRINT: Orig. printing on B6 (Final)

Reviewed by: _____

Page 2

From: PFR Event <ppreventcreation@fda.hhs.gov>
To: Cleary, Michael *; HQ Pet Food Report Notification; **B6**
Sent: 2/24/2019 9:40:39 PM
Subject: Purina One Smart Blend Lamb and Rice dry: Lisa Freeman - EON-380707
Attachments: 2063114-report.pdf; 2063114-attachments.zip

A PFR Report has been received and PFR Event [EON-380707] has been created in the EON System.

A "PDF" report by name "2063114-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 "2063114-attachments.zip" and is attached to this email notification.

Below is the summary of the report:

EON Key: EON-380707

ICSR #: 2063114

EON Title: PFR Event created for Purina One Smart Blend Lamb and Rice dry; 2063114

AE Date	08/01/2018	Number Fed/Exposed	3
Best By Date		Number Reacted	1
Animal Species	Dog	Outcome to Date	Worse/Declining/Deteriorating
Breed	Doberman Pinscher		
Age	B6 Years		
District Involved	PFR-New England DO		

Product information

Individual Case Safety Report Number: 2063114

Product Group: Pet Food

Product Name: Purina One Smart Blend Lamb and Rice dry

Description: DCM and CHF diagnosed Aug 2018 We saw 1/11/19 - CHF still not well controlled Eating Purina Lamb and Rice - unlikely to be associated with DCM but reporting just in case Owner is now changing to different diet and will recheck in 3 months 2 other dogs eating same diet - we have not screened them yet. BNP = **B6** troponin **B6** but taurine normal **B6** plasma **B6** whole blood)

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: 3

Number of Animals Reacted With Product: 1

Product Name	Lot Number or ID	Best By Date
Purina One Smart Blend Lamb and Rice dry		

Sender information

Lisa Freeman
200 Westboro Rd
North Grafton, MA 01536
USA

Owner information

B6
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

=====

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.

Report Details - EON-380707

ICSR:	2063114																																																																	
Type Of Submission:	Initial																																																																	
Report Version:	FPSR.FDA.PETF.V.V1																																																																	
Type Of Report:	Adverse Event (a symptom, reaction or disease associated with the product)																																																																	
Reporting Type:	Voluntary																																																																	
Report Submission Date:	2019-02-24 16:31:40 EST																																																																	
Reported Problem:	<table><tr><td>Problem Description:</td><td colspan="2">DCM and CHF diagnosed Aug 2018 We saw 1/11/19 - CHF still not well controlled Eating Purina Lamb and Rice - unlikely to be associated with DCM but reporting just in case Owner is now changing to different diet and will recheck in 3 months 2 other dogs eating same diet - we have not screened them yet. BNP = B6, troponin B6 but taurine normal B6 asma B6 whole blood)</td></tr><tr><td>Date Problem Started:</td><td colspan="2">08/01/2018</td></tr><tr><td>Concurrent Medical Problem:</td><td colspan="2">No</td></tr><tr><td>Outcome to Date:</td><td colspan="2">Worse/Declining/Deteriorating</td></tr></table>			Problem Description:	DCM and CHF diagnosed Aug 2018 We saw 1/11/19 - CHF still not well controlled Eating Purina Lamb and Rice - unlikely to be associated with DCM but reporting just in case Owner is now changing to different diet and will recheck in 3 months 2 other dogs eating same diet - we have not screened them yet. BNP = B6, troponin B6 but taurine normal B6 asma B6 whole blood)		Date Problem Started:	08/01/2018		Concurrent Medical Problem:	No		Outcome to Date:	Worse/Declining/Deteriorating																																																				
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Product Information:	<table><tr><td>Product Name:</td><td colspan="2">Purina One Smart Blend Lamb and Rice dry</td></tr><tr><td>Product Type:</td><td colspan="2">Pet Food</td></tr><tr><td>Lot Number:</td><td colspan="2"></td></tr><tr><td>Product Use Information:</td><td>Description:</td><td>1/2 cup twice daily since a puppy See diet history for additional details</td></tr><tr><td>Manufacturer /Distributor Information:</td><td colspan="2"></td></tr><tr><td>Purchase Location Information:</td><td colspan="2"></td></tr></table>			Product Name:	Purina One Smart Blend Lamb and Rice dry		Product Type:	Pet Food		Lot Number:			Product Use Information:	Description:	1/2 cup twice daily since a puppy See diet history for additional details	Manufacturer /Distributor Information:			Purchase Location Information:																																															
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Sender Information:	Name:	Lisa Freeman	
	Address:	200 Westboro Rd North Grafton Massachusetts 01536 United States	
	Contact:	Phone:	5088874523
		Email:	lisa.freeman@tufts.edu
	Permission To Contact Sender:	Yes	
	Preferred Method Of Contact:	Email	
Additional Documents:	Attachment:	rpt_medical_record_preview	B6 df
	Description:	Medical records	
	Type:	Medical Records	



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. **B6**
 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: Mar 06, 2019

Tufts University-Clinical Pathology Lab
 Tracking Number:

GI Lab Accession: **B6**

Test	Result	Reference Interval	Assay Date
Ultra-Sensitive Troponin I Fasting	B6	≤0.06	03/06/19

Interpretation: Increased troponin I value. If clinical signs of heart disease are present, additional diagnostic work-up is recommended. Patients who are being supplemented with biotin may exhibit a slightly higher ultra-sensitive troponin result (10% or lower); however, the ability of the assay to detect serial increases or decreases of ultra-sensitive troponin is maintained.

Comments:

GI Lab Contact Information

Phone: (979) 862-2861
 Fax: (979) 862-2864

Email: gilab@cvm.tamu.edu
 vetmed.tamu.edu/gilab

Report Details - EON-374789

ICSR:	2060600																																																																										
Type Of Submission:	Initial																																																																										
Report Version:	FPSR.FDA.PETF.V.V1																																																																										
Type Of Report:	Adverse Event (a symptom, reaction or disease associated with the product)																																																																										
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Report Submission Date:	2018-12-27 10:47:28 EST																																																																										
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	Permission To Contact Sender:	Yes	
	Preferred Method Of Contact:	Email	
Additional Documents:	Attachment:	rpt_medical_record_preview.pdf	
	Description:	B6	medical records
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Report Details - EON-382947

ICSR:	2064359																																															
Type Of Submission:	Followup																																															
Report Version:	FPSR.FDA.PETF.V.V1																																															
Type Of Report:	Adverse Event (a symptom, reaction or disease associated with the product)																																															
Reporting Type:	Voluntary																																															
Report Submission Date:	2019-03-21 11:28:27 EDT																																															
Initial Report Date:	12/27/2018																																															
Parent ICSR:	2060600																																															
Follow-up Report to FDA Request:	Yes																																															
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			<div style="border: 1px solid black; padding: 2px; text-align: center;"> B6 United States </div>
	Healthcare Professional Information:	Practice Name:	Tufts Cummings School of Veterinary Medicine
		Contact:	Name: Lisa Freeman
			Phone: (508) 887-4523
			Email: lisa.freeman@tufts.edu
		Address:	200 Westboro Rd North Grafton Massachusetts 01536 United States
Sender Information:	Name:	Lisa Freeman	
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	Contact:	Phone:	5088874523
		Email:	lisa.freeman@tufts.edu
	Permission To Contact Sender:	Yes	
	Preferred Method Of Contact:	Email	
Reported to Other Parties:	None		
Additional Documents:	Attachment:	Medical record 12-2018-3-2019-compressed.pdf	
	Description:	Medical record Dec 2018-March 2019	
	Type:	Medical Records	
	Attachment:	Medical record 12-2018-3-2019 2.pdf	
	Description:	Medical record	
	Type:	Medical Records	

Report Details - EON-382952

ICSR:	2064363		
Type Of Submission:	Initial		
Report Version:	FPSR.FDA.PETF.V.V1		
Type Of Report:	Adverse Event (a symptom, reaction or disease associated with the product)		
Reporting Type:	Voluntary		
Report Submission Date:	2019-03-21 12:00:57 EDT		
Reported Problem:	Problem Description:	<p>B6 is presented as a consultation through CVCA Cardiology on 3/18/19 for evaluation of a coughing and marked cardiomegaly with concern for DCM. Arthur initially presented to the pDVM on 3/11 for a few day hx of coughing and was started on cough tabs. His symptoms progressed w/coughing noted mostly at night, decreased energy level and appetite, and he presented to the Emergency Vet Service in B6 CXR showed severe heart enlargement and possible early CHF. He was given a dose of Lasix (with significant improvement in C and appetite per O) and started on Enalapril 15 mg BID with recommendation for referral. He has been on a grain free diet for the last ~4 years (since he was a puppy) and so DCM was discussed and a diet change recommended. The O's switched B6 to Purina B6 and he has had no adverse effects. They also submitted a taurine level (unsure if whole blood vs. plasma) to UC Davis. UTD on HW and F/T preventatives; has also been on salmon oils. PE: HR 180 bpm; grade III/VI holosystolic plateau quality heart murmur - PMI equal over MV and TV; regular tachycardia with s/s femoral pulses; mildly increased RE, RR 40-50 bpm, harsh lung sounds in all fields but no discreet crackles or wheezes. Echo diagnosis: Advanced dilated cardiomyopathy - suspect secondary to nutritional deficiency Moderate to severe mitral valve regurgitation Severely dilated left atrial dimensions Severely dilated left ventricular dimensions with severely decreased heart muscle function Moderate to severe right heart enlargement Left-sided congestive heart failure</p>	
	Date Problem Started:	03/08/2019	
	Concurrent Medical Problem:	No	
	Outcome to Date:	Worse/Declining/Deteriorating	
Product Information:	Product Name:	Horizons pulsar grain free diet	
	Product Type:	Pet Food	
	Lot Number:		
	Package Type:	BAG	
	Possess Unopened Product:	No	
	Possess Opened Product:	No	
	Storage Conditions:	unknown	
	Product Use Information:	Description:	Fed daily for pet's entire life
		First Exposure Date:	03/01/2015
		Last Exposure Date:	B6
		Time Interval between Product Use and Adverse Event:	4 Years
		Product Use Stopped After the Onset of the Adverse Event:	Yes
		Adverse Event Abate After Product Stop:	Unknown
		Product Use Started Again:	No

		Perceived Relatedness to Adverse Event:	Probably related
		Other Foods or Products Given to the Animal During This Time Period:	Unknown
	Manufacturer /Distributor Information:		
	Purchase Location Information:		
Animal Information:	Name:	B6	
	Type Of Species:	Dog	
	Type Of Breed:	Mixed (Dog)	
	Gender:	Male	
	Reproductive Status:	Neutered	
	Weight:	27.7 Kilogram	
	Age:	4 Years	
	Assessment of Prior Health:	Good	
	Number of Animals Given the Product:	1	
	Number of Animals Reacted:	1	
	Owner Information:	Owner Information provided:	Yes
		Contact:	Name: B6
			Phone: B6
			Other Phone: B6
			Email: B6
		Address:	B6
			United States
	Healthcare Professional Information:	Practice Name:	B6
		Contact:	Name: B6
			Phone: B6
			Other Phone: B6
		Address:	B6
			United States
		Type of Veterinarian:	Primary/regular veterinarian
		Date First Seen:	03/11/2019
Sender Information:	Name:		
	Address:	B6	
			United States

	Contact:	Phone:	B6
		Other Phone:	
		Email:	
	Reporter Wants to Remain Anonymous:	No	
	Permission To Contact Sender:	Yes	
	Preferred Method Of Contact:	Email	
	Reported to Other Parties:	None	
Additional Documents:	Attachment:	IMG-0001-00001.jpg	
	Description:	radiograph	
	Type:	Radiographs	
	Attachment:	BW (Chem,CBC) Emergency Vet Service.pdf	
	Description:	bloodwork	
	Type:	Medical Records	
	Attachment:	IMG-0002-00001.jpg	
	Description:	radiographs	
	Type:	Radiographs	
	Attachment:	Echo data.pdf	
	Description:	Echo data	
	Type:	Echocardiogram	
	Attachment:	clinical summary arthur.pdf	
	Description:	Clinical summary cardiology exam and echo summary	
	Type:	Medical Records	



B6

Email: **B6**@cvcavets.com

Animal No: 235853
Animal Wt: 27 kgs
Clinical No: 910259
Record Date: 03-18-2019
Date Range: -
Printed On: 03-21-2019
Consulting Doctor: **B6**

Client Details

Name **B6**
Address **B6**
Phone **B6**

Patient Details

Name **B6**
Species Canine
Breed Mixed breed
Age **B6**
Sex Male Neutered
Referral **B6**

Client Summary

Cardiac Evaluation Report

Exam Date: 03-18-2019

Diagnosis

- Advanced dilated cardiomyopathy - suspect secondary to nutritional deficiency
 - Moderate to severe mitral valve regurgitation
 - Severely dilated left atrial dimensions
 - Severely dilated left ventricular dimensions with severely decreased heart muscle function
 - Moderate to severe right heart enlargement
- Left-sided congestive heart failure
- Eating a grain-free diet

Concurrent Conditions:

- Mildly underweight - rule out secondary to cardiac cachexia vs. other

Medications

B6

B6

03-21-2019

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B6

Please note

- Continue heartworm and flea/tick preventives as prescribed by **B6**
- **Please call on the next business day if you notice a decrease in appetite, vomiting, lethargy, weakness or any other signs of illness while beginning/adjusting the medications.**
- **Please allow 24-48 hours for CVCA to process prescription refill requests.**
- **Refill all medications indefinitely unless directed by CVCA or your primary care veterinarian.**
- **Please check all medications and dosages on your discharge report against the pharmacy labels.**

Additional Recommendations

- Please see our website www.cvcavets.com for more information about **B6** dilated cardiomyopathy and heart failure.

Nutrition:

- The exact causal relationship between grain-free and/or high legume diets in atypical dog breeds with dilated cardiomyopathy is uncertain. At this time, if there is not a clinical reason (i.e. food allergies or gastrointestinal upset) for use of a grain-free, limited ingredient, or unique protein source (kangaroo, alligator, bison, etc.) diet, we would recommend consideration of using alternative diet(s). We recommend brands that have been both AAFCO (American Assoc. of Feed Control Officials) approved and have undergone feeding trial testing. These include brands such as Hill's, Royal Canin, and Purina. Consultation with a board-certified veterinary nutritionist can also be considered.
- For more information about nutrition and cardiac disease in pets go to: <http://vetmed.tufts.edu/heartsmart/diet/> or <https://www.cvcavets.com/for-pet-owners/nutrition-grain-free/>

Activity:

- Keep **B6** very quiet for the next 3-4 days with only brief leash walks to eliminate.
- Once his respiratory rate and effort have returned to normal, **B6** may gradually resume activity as he wants and is able to do. Please allow **B6** to take more breaks and rest during activity.
- For dogs at risk for sudden death, there is an increased risk for sudden death during activity, but dogs have been noted to die suddenly at rest and with normal daily activity. We recommend allowing a level of activity that maintains the best quality of life for **B6**.

At Home Monitoring:

- **B6** is at high risk for symptoms from congestion (fluid in the lungs and/or abdomen) or the development/worsening of an arrhythmia (irregular heartbeat). Please monitor for signs of **difficulty breathing, lethargy, weakness, anxiety, collapse, abdominal distension, or dark or blue discoloration of the tongue**

B6

03-21-2019

Pg: 2 / 5

or gums.

- Please monitor [B6] breathing rate when he is sleeping to help detect early fluid developing in the lungs. **The normal breathing rate for a sleeping dog is fewer than 35 breaths per minute.** One rise and one fall of the chest is one breath. If you notice that the breathing rate is consistently higher than 35 breaths per minute, you can give additional Lasix as outlined above.
- Congestive heart failure is a life threatening condition. If symptoms do not improve within 1-2 hours with the additional Lasix, the breathing is labored, or collapse is noted, please seek emergency veterinary evaluation.

Anesthesia/Fluid/Steroid Risk:

- [B6] is at high risk for cardiac-related complications. Elective anesthesia should be avoided.
- If anesthesia is emergent, consider the following recommendations: no benazepril for 24 hours prior to anesthesia, thoracic radiographs prior to induction, judicious use of IV fluids (1-3 ml/kg/hr, or as clinically indicated), caution with drugs with profound effects on heart rate and blood pressure (i.e. dexmedetomidine, ketamine, telazol, acepromazine, or atropine [unless indicated by bradycardia]), and careful monitoring of heart rate and rhythm, blood pressure, and oxygen status during the procedure. If a pressor is indicated, consider a CRI of dobutamine starting at 5 ug/kg/min and titrated to maintain a systolic blood pressure >90-100 mmHg. Monitor closely for several hours upon recovery and consider repeat thoracic radiographs if there are any concerns. There is risk with any anesthetic event. If arrhythmic, ECG monitoring should continue until [B6] is fully recovered and awake. For additional recommendations, strongly consider consultation with an anesthesiologist.
- Caution with intravenous or subcutaneous fluid therapy and steroid use. [B6] is at a high risk for secondary fluid overload. If fluids are needed, they should be given conservatively and the breathing carefully monitored as outlined above. Nasoesophageal fluids may be better tolerated than parenteral fluids. Steroids should only be given if necessary and at the lowest effective dosage while monitoring the breathing carefully. Long-acting steroids, such as Depo-Medrol, should be avoided.

Reevaluation

- Please recheck with [B6] in 2 weeks, then every 4 -6 months thereafter for a follow up physical exam and blood chemistry profile with electrolytes. Please forward these results when available.
- Please call CVCA to **schedule a 24-hour Holter monitor in the next 1 - 2 months** so that we can evaluate [B6] heart rhythm under normal circumstances and over a longer time period. The results will help determine the need for antiarrhythmic therapy.
- Please recheck with **CVCA in 3 months** for a follow up consultation, physical exam, blood pressure, and echocardiogram. Please contact us or schedule an earlier appointment if [B6] has any problems or symptoms indicative of worsening heart disease or if recommended by [B6]

We thank you for trusting in CVCA to care for [B6] today. Please feel free to call us with any questions or concerns.

Sincerely,

[B6]

Team Leader:

[B6]

DACVIM (Cardiology)

Fairfax Support Staff:

[B6]

Primary Care Summaries

Visit Summary

History: [B6] is presented as a consultation through the [B6] service for evaluation of a coughing and marked cardiomegaly with concern for DCM. [B6] initially presented to the pDVM on 3/11 for a few ay hx of coughing and was started on cough tabs. His symptoms progressed w/coughing noted mostly at night, decreased energy level and appetite, and he presented to the [B6] yesterday. CXR showed severe heart enlargement and possible early CHF. He was given a dose of Lasix (with significant improvement in C and appetite per O) and started on Enalapril 15 mg BID with recommendation for referral. He has been on a grain free diet for the last ~4 years (since he was a puppy) and so DCM was discussed and a diet change recommended. The O's switched [B6] to Purina yesterday and he has had no adverse effects. They also submitted a taurine level (unsure if whole blood vs. plasma) to UC Davis. UTD on HW and F/T preventatives; has also been on salmon oils.

[B6]

03-21-2019

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B6

- *Taurine level:* pending

CVCA Diagnostics and/or procedures:

- *Doppler BP:* 100 mmHg, 4cm cuff/left front leg
- *Treatments:* Administered furosemide 60 mg IV into the left lateral saphenous vein at time of echo; prior to discharge also administered furosemide 60 mg orally and pimobendan 7.5 mg orally

Echocardiographic Findings

Severe left atrial dilation; normal mitral valve; moderate centrally directed mitral valve regurgitation; severely dilated left ventricular end diastolic dimensions; severely dilated left ventricular end systolic dimensions; severely depressed indices of left ventricular systolic function (EF SMOD by 12.3%) ; normal aortic valve and ascending aorta; mildly depressed left ventricular outflow velocity; severely dilated right atrium; normal tricuspid valve; moderate tricuspid valve regurgitation with estimated at least moderate pulmonary hypertension; moderately to severely dilated right ventricle with moderately decreased systolic function; normal pulmonic valve and pulmonary artery; moderately depressed right ventricular outflow velocity; summated E/A on transmitral inflow spectral Doppler tracings with increased Emax; summated E':A' on tissue Doppler imaging at the medial mitral annulus; increased E:E'; moderately decreased estimated systemic systolic blood pressure based on mitral regurgitant pressure gradient (suspect significant underestimation due to poor ventricular systolic function); no masses, effusions or heartworms observed.

- *Lead II ECG during echo:* sinus tachycardia throughout with left ventricular enlargement pattern
- *FAST:* no abdominal effusion seen; moderate hepatic venous distension

Comments

Dear Doctors at VCA Healthy Paws Medical Center,

We had the opportunity to see [B6] as a consultation through the [B6] service today. Sadly, [B6] has severe dilated cardiomyopathy causing congestive heart failure. We have begun prescription medications and nutritional supplements to control the congestive heart failure, slow down the progression of the heart disease and improve survival. We will continue to closely monitor [B6]'s heart disease via serial echocardiography and institute further therapy if progression is noted. [B6]'s DCM is suspected to be secondary to a nutritional cause, specifically since he has been on a grain free diet for several years. Current research is ongoing to find out the underlying link between grain-free diets and DCM in dogs, though it is possible that a taurine +/- L-carnitine deficiency may contribute in some cases (though perhaps not all). With a change in diet, amino acid supplementation, and cardiac medications, some dogs will recover, partially or completely. Sadly, some dogs do not respond to therapy or do not survive long enough for recovery to occur. [B6]'s prognosis is currently unknown. We will know more about response to therapy and recovery after his first recheck echocardiogram in a few months. He is such a sweet boy and we truly hope that he responds well to therapy.

We appreciate your continued referrals and the trust you place in CVCA to co-manage your cardiac patients. We look forward to working with you on this case and others. In an effort to continue to improve CVCA's service to both you and your clients, please visit our website at www.cvcavets.com and complete our online referring veterinarian survey.

Sincerely,

[B6] VMD, DACVIM (Cardiology)

[B6]

03-21-2019

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B6

B6

03-21-2019

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Patient Demographics

B6		Study Date: 03/18/2019			
Patient ID: 235853_031819		Accession #:		Alt ID:	
DOB:	Age:	Gender:	Ht:	Wt: 61lb 2oz	BSA:
Institution: CVCA		B6			
Referring Physician:					
Physician of Record:		Performed By:		B6	
Comments:					

Adult Echo: Measurements and Calculations

2D

LVIDd (2D)		SV (2D-Cubed)		IVS % (2D)	
LVPWd (2D)		FS (2D-Cubed)		LVPW % (2D)	
IVSs (2D)		EF (2D-Cubed)		IVS/LVPW (2D)	
LVIDs (2D)		A4Cd		SV (A4C)	
		LV Vol			
		LV Length			
		LV Area			
LVPWs (2D)		A4Cs		EF (A4C)	
		LV Vol			
		LV Length			
		LV Area			
EDV (2D-Teich)	B6	LVLd (A4C)	B6	IVSd (2D)	B6
ESV (2D-Teich)		LVLs (A4C)		RVIDd/LVIDd	
SV (2D-Teich)		LVAd (A4C)		RVIDd (2D)	
FS (2D-Teich)		LVAs (A4C)		LA Area	
EF (2D-Teich)		EDV (A4C)		LA Dimen (2D)	
EDV (2D-Cubed)		ESV (A4C)		LA/Ao (2D)	
ESV (2D-Cubed)		LV Mass (Cubed)		AoR Diam (2D)	

MMode

IVSd (MM)		SV (MM-Teich)		LVPW % (MM)	
LVIDd (MM)	B6	FS (MM-Teich)	B6	RVIDd (MM)	B6
LVPWd (MM)		EF (MM-Teich)		LA Dimen (MM)	
IVSs (MM)		EDV (MM-Cubed)		AoR Diam (MM)	

LVIDs (MM)	B6	ESV (MM-Cubed)	B6	LA/Ao (MM)	B6
LVPWs (MM)		SV (MM-Cubed)		MV D-E Slope	
IVS/LVPW (MM)		EF (MM-Cubed)		MV E-F Slope	
EDV (MM-Teich)		FS (MM-Cubed)		MV EPSS	
ESV (MM-Teich)		IVS % (MM)			

Doppler

AV Vmax Max PG Vmax MR Vmax Max PG Vmax	B6	TR Vmax Max PG Vmax PV Vmax Max PG Vmax	B6

Other Measurements

Dimensions: 2D LAX

LA lax (2D)

AO lax (2D)

Mitral Valve: Velocities & Time

MV Peak E Sum

Vel

PG

TDI: E/E`

Med E` Sum

Dimensions: All Points

E Sum/E`Med Sum

Dimensions: Diameters

LVID/Ao (2D)

LA lax/Ao lax

EDVI

ESVI

EF & Volume: Simpson's

Sphericity Id

Dimensions: Diameters

LVEDDN

LVID/Ao (2D)

B6

B6

Signature

Signature:

Name(Print):

Date:

Report Details - EON-382807

ICSR:	2064306		
Type Of Submission:	Initial		
Report Version:	FPSR.FDA.PETF.V.V1		
Type Of Report:	Adverse Event (a symptom, reaction or disease associated with the product)		
Reporting Type:	Voluntary		
Report Submission Date:	2019-03-20 08:40:53 EDT		
Reporter is the Animal Owner:	Yes		
Reported Problem:	Problem Description:	On March 18, 2019 my dog had an ECG in pre-op for his neutering surgery. This was done because he has a heart murmur. There was an abnormality found and we were sent to a cardiologist. On March 19, 2019 my dog was diagnosed with early stages of nutritionally mediated DCM at a board certified veterinary cardiologist. The breeder had my dog on Nutrisource food after weening until we got him at 9 weeks. We then put him on Nutro large breed puppy chicken formula. He was on this food until January where we switched him to Taste of the Wild Pacific Stream Puppy.	
	Date Problem Started:	03/19/2019	
	Concurrent Medical Problem:	Yes	
	Pre Existing Conditions:	My dog was diagnosed with a grade 2 heart murmur at about 10-12 weeks of age. He also has had some digestive issues possibly due to a chicken intolerance /sensitivity.	
	Outcome to Date:	Not Applicable	
Product Information:	Product Name:	Taste of the Wild Pacific Stream Puppy	
	Product Type:	Pet Food	
	Lot Number:		
	Package Type:	BAG	
	Purchase Date:	01/01/2019	
	Possess Unopened Product:	No	
	Possess Opened Product:	No	
	Storage Conditions:	The product was stored in a food container that is not 100% air tight.	
	Product Use Information:	Description:	We switched to this food after my dog started having diarrhea on Nutro. We followed feeding instructions.
		First Exposure Date:	01/01/2019
		Last Exposure Date:	03/10/2019
		Product Use Stopped After the Onset of the Adverse Event:	Yes
		Perceived Relatedness to Adverse Event:	Probably related
		Other Foods or Products Given to the Animal During This Time Period:	No
	Manufacturer /Distributor Information:		
	Purchase Location Information:	Name:	Chewy.com
	Product Name:	Nutro Large breed puppy Farm raised chicken	

	Product Type:	Pet Food	
	Lot Number:		
	Package Type:	BAG	
	Purchase Date:	10/28/2018	
	Possess Unopened Product:	No	
	Possess Opened Product:	No	
	Storage Conditions:	The food was stored in the original bag	
	Product Use Information:	Description:	My puppy was fed this food from 9 weeks old until about 4.5 months old. He was fed based on feeding instructions on the bag. We stopped feeding this food after he started to have diarrhea and vomiting.
		First Exposure Date:	10/29/2018
		Last Exposure Date:	01/01/2019
		Product Use Stopped After the Onset of the Adverse Event:	Yes
		Perceived Relatedness to Adverse Event:	Possibly related
		Other Foods or Products Given to the Animal During This Time Period:	No
	Manufacturer /Distributor Information:		
	Purchase Location Information:		
	Product Name:	Nutrisource Large breed puppy Grain free	
	Product Type:	Pet Food	
	Lot Number:		
	Package Type:	BAG	
	Possess Unopened Product:	No	
Possess Opened Product:	No		
Product Use Information:	Description:	This food was given to my dog after weening by the dog breeder.	
	Last Exposure Date:	10/29/2018	
	Other Foods or Products Given to the Animal During This Time Period:	No	
Manufacturer /Distributor Information:			
Purchase Location Information:			
Animal Information:	Name:	B6	
	Type Of Species:	Dog	
	Type Of Breed:	Retriever - Golden	

	Gender: Male
	Reproductive Status: Intact
	Weight: 24 Kilogram
	Age: 7 Months
	Assessment of Prior Health: Good
	Number of Animals Given the Product: 1
	Number of Animals Reacted: 1
	Owner Information:
	Healthcare Professional Information:
	Practice Name: B6
	Contact: Name: B6
	Phone: B6
	Address: B6
	United States
	Type of Veterinarian: Primary/regular veterinarian
	Date First Seen: 03/18/2019
	Permission to Release Records to FDA: Yes
	Practice Name: B6
	Contact: Name: B6
	Phone: B6
	Address: B6
	United States
	Type of Veterinarian: Referred veterinarian
Date First Seen: 03/19/2019	
Permission to Release Records to FDA: Yes	
Sender Information:	Name:
	Address: B6
	United States
	Contact: Phone: B6
	Email: B6
	Reporter Wants to Remain Anonymous: No
	Permission To Contact Sender: Yes
Preferred Method Of Contact: Email	
Reported to Other Parties: None	

Additional Documents:

Attachment:

B6

58606-1.pdf

Description: This is the report from my dog's cardiology consultation and echocardiogram.

Type: Echocardiogram

B6

Date: 3/19/2019

Referring Vet:

B6

Patient Name:

Signalment: Canine, Goldendoodle, Male,

B6

Owner Name:

B6

Phone:

B6

B6

M.S., V.M.D.

Cardiology, Ultrasound Referral Service
Consultation-Education

History: Heart murmur; stable heart rate and rhythm and no pulmonary crackles; a cardiac consultation was advised prior to anesthesia and neuter.

Current Therapy: None at this time

Weight: 24kg.

Physical Examination: H/L: Grade II holosystolic murmur left 4th intercostal space; no pulmonary crackles.

B6

Echocardiogram:

B6



Diagnosis: There is no evidence of significant congenital heart disease. The concern is the left ventricular contractility is toward or just below the lower limits of normal: (grain free diet related versus early idiopathic dilated cardiomyopathy). There is no evidence of congestive heart failure at this time.

Therapeutic Guidelines: We discussed

B6

B6

Recommendations:

B6

B6

Cardiology Recheck: At one year of age; at that time we will reconsider any need for cardiac medication.

B6



B6



B6



B6



B6

B6

Report Details - EON-382838

ICSR:	2064311	
Type Of Submission:	Initial	
Report Version:	FPSR.FDA.PETF.V.V1	
Type Of Report:	Adverse Event (a symptom, reaction or disease associated with the product)	
Reporting Type:	Voluntary	
Report Submission Date:	2019-03-20 12:25:37 EDT	
Reporter is the Animal Owner:	Yes	
Reported Problem:	<p>Problem Description: B6 started coughin in the last week of May, progressively lethargic since that time. Seen by primary vet. Suspected Kennel Cough (misdiagnosis). B6 given with no improvement after one week started on B6 10mg q2x daily. No improvement seen. Syncope episode occurred about 2 weeks after, mouth to mouth resuscitation performed. Recovered after a few moments. No improvement seen with antibiotics, worried owners rushed B6 y specialty center of B6 around June 13, knowing cardiologist B6 would be there that day. He had an appointment scheduled a few weeks from that day but we realized we could not wait. Gums were pale on arrival. Was in critical condition. He had to stay overnight in oxygen tank with high dosage of lasix and received echocardiogram. Prognosis was poor. We decided to try medical management vs. euthanization. He was prescribed various medications for his problem. Problems: Atrial and ventricular premature contractions, coughing and collapse, lethargy, stage C mitral and tricuspid valvular insufficiency with severe left side congestive heart failure and severe pulmonary hypertension. He lasted 2 months and passed away in late August. Respiratory rate was high during that time period, sometimes trouble getting comfortable. He had been fed NUTRO max (various kinds) 2017 and 2018. I don't have records of prior to then because i started buying it online through Chewy and Amazon in 2017. But my mom said that he and my older dog had always been on Nutro. Foods provided before diagnosis: Nutro Max Large Breed Adult Recipe with Farm-Raised Chicken Nutro MAX Adult Recipe With Farm Raised Chicken Mini Chunk Dry Dog Food, (1) 25 lbs; Rich in Nutrients and Full of Flavor NUTRO MAX Senior Recipe With Farm Raised Chicken Dry Dog Food, Whole Grains for Nutritious Fiber, (1) 25-lb. bag; Rich in Nutrients and Full of Flavor NUTRO MAX Large Breed Adult Recipe With Farm Raised Chicken Dry Dog Food, (1) 25-lb. bag; Rich in Nutrients and Full of Flavor for Large Breed Dogs Nutro MAX Adult Grain Free With Salmon Dry Dog Food, 25 lbs. After his diagnosis I was concerned about the food and a friend recommended Zignature, so i switched him for the last few months, he was on Zignature at time of death: Zignature - Whitefish (August) Zignature - Wild Trout (July) I am discovering there is a link to heart problems and dry kibble, since echocardiogram was performed, decided to submit case to FDA to help other dogs/owners. Thank you.</p> <p>Date Problem Started: 05/21/2018</p> <p>Concurrent Medical Problem: Yes</p> <p>Pre Existing Conditions: Seizures (Unknown) (Xanax used for stressful events) Itchiness (Apoquel medication used)</p> <p>Outcome to Date: Died Naturally</p> <p>Date of Death: B6</p>	
Product Information:	Product Name:	Zignature WHITEFISH FORMULA
	Product Type:	Pet Food
	Lot Number:	
	Package Type:	BAG
	Package Size:	13 Pound
	Purchase Date:	08/01/2018
	Number Purchased:	1
	Possess Unopened Product:	No
	Possess Opened Product:	No

Storage Conditions:		in container	
Product Use Information:	Description:	fed 2x daily	
	First Exposure Date:	08/01/2018	
	Last Exposure Date:	B6	
	Perceived Relatedness to Adverse Event:	Possibly related	
	Other Foods or Products Given to the Animal During This Time Period:	Unknown	
Manufacturer /Distributor Information:			
Purchase Location Information:	Name:	B6	
	Address:	United States	
Product Name:		Zignature TROUT & SALMON MEAL FORMULA	
Product Type:		Pet Food	
Lot Number:			
Package Type:		BAG	
Package Size:		13 U.S. fluid ounce	
Purchase Date:		06/01/2018	
Possess Unopened Product:		No	
Possess Opened Product:		No	
Storage Conditions:		in container	
Product Use Information:	Description:	fed 2x daily	
	First Exposure Date:	06/01/2018	
	Product Use Stopped After the Onset of the Adverse Event:	No	
	Perceived Relatedness to Adverse Event:	Possibly related	
	Other Foods or Products Given to the Animal During This Time Period:	Unknown	
Manufacturer /Distributor Information:			
Purchase Location Information:	Name:	B6	
	Address:	United States	
Product Name:		Nutro MAX Adult Grain Free With Salmon Dry Dog Food, 25 lbs.	

	Product Type:	Pet Food		
	Lot Number:			
	Package Type:	BAG		
	Package Size:	25 Pound		
	Purchase Date:	10/18/2017		
	Number Purchased:	1		
	Possess Unopened Product:	No		
	Possess Opened Product:	No		
	Storage Conditions:	stored under cabinet, rolled up, clipped, in bag		
	Product Use Information:	Description:	fed 2x daily	
		First Exposure Date:	10/20/2017	
		Time Interval between Product Use and Adverse Event:	7 Months	
		Product Use Stopped After the Onset of the Adverse Event:	Yes	
		Adverse Event Abate After Product Stop:	No	
		Product Use Started Again:	No	
		Perceived Relatedness to Adverse Event:	Probably related	
		Other Foods or Products Given to the Animal During This Time Period:	Unknown	
	Manufacturer /Distributor Information:			
	Purchase Location Information:	Name:	AMAZON	
	Product Name:	NUTRO MAX Large Breed Adult Recipe With Farm Raised Chicken Dry Dog Food, (1) 25-lb. bag; Rich in Nutrients and Full of Flavor for Large Breed Dogs		
Product Type:	Pet Food			
Lot Number:				
Package Type:	BAG			
Package Size:	25 Pound			
Purchase Date:	01/21/2018			
Number Purchased:	1			
Possess Unopened Product:	No			
Possess Opened Product:	No			
Storage Conditions:	bag clipped, in cabinet, rolled up.			
Product Use Information:	Description:	2x/day fed		
	First Exposure Date:	01/23/2018		
	Time Interval between Product	5 Months		

		Use and Adverse Event:	
		Product Use Stopped After the Onset of the Adverse Event:	Yes
		Adverse Event Abate After Product Stop:	No
		Product Use Started Again:	No
		Perceived Relatedness to Adverse Event:	Probably related
		Other Foods or Products Given to the Animal During This Time Period:	Unknown
	Manufacturer /Distributor Information:		
	Purchase Location Information:	Name:	AMAZON
	Product Name:	NUTRO MAX Senior Recipe With Farm Raised Chicken Dry Dog Food, Whole Grains for Nutritious Fiber, (1) 25-lb. bag; Rich in Nutrients and Full of Flavor	
	Product Type:	Pet Food	
	Lot Number:		
	Package Type:	BAG	
Package Size:	25 Pound		
Purchase Date:	03/05/2018		
Number Purchased:	1		
Possess Unopened Product:	No		
Possess Opened Product:	No		
Storage Conditions:	Cabinet, rolled up and clipped in bag.		
	Product Use Information:	Description:	Fed 2x/day
		First Exposure Date:	03/07/2018
		Time Interval between Product Use and Adverse Event:	2 Months
		Product Use Stopped After the Onset of the Adverse Event:	Yes
		Adverse Event Abate After Product Stop:	No
		Product Use Started Again:	No
		Perceived Relatedness to Adverse Event:	Probably related
		Other Foods or Products Given	Unknown

		to the Animal During This Time Period:	
	Manufacturer /Distributor Information:		
	Purchase Location Information:	Name:	AMAZON
	Product Name:	Nutro MAX Adult Recipe With Farm Raised Chicken Mini Chunk Dry Dog Food, (1) 25 lbs; Rich in Nutrients and Full of Flavor	
	Product Type:	Pet Food	
	Lot Number:		
	Package Type:	BAG	
	Package Size:	25 Pound	
	Purchase Date:	04/26/2018	
	Number Purchased:	1	
	Possess Unopened Product:	No	
	Possess Opened Product:	No	
	Storage Conditions:	Immediately opened, we stored in cabinet in kitchen, rolled up bag and clipped shut	
	Product Use Information:	Description:	Fed 2x Daily
		First Exposure Date:	04/28/2018
		Time Interval between Product Use and Adverse Event:	1 Months
		Product Use Stopped After the Onset of the Adverse Event:	Yes
		Adverse Event Abate After Product Stop:	Unknown
		Product Use Started Again:	No
		Perceived Relatedness to Adverse Event:	Probably related
		Other Foods or Products Given to the Animal During This Time Period:	Unknown
	Manufacturer /Distributor Information:		
	Purchase Location Information:	Name:	AMAZON
		Address:	United States
Animal Information:	Name:	B6	
	Type Of Species:	Dog	
	Type Of Breed:	Portuguese Water Dog	
	Gender:	Male	
	Reproductive Status:	Neutered	
	Weight:	25.45 Kilogram	
	Age:	11 Years	

	Assessment of Prior Health:	Good	
	Number of Animals Given the Product:	1	
	Number of Animals Reacted:	1	
	Owner Information:		
	Healthcare Professional Information:	Practice Name:	B6
		Contact:	Name: B6 Phone: B6
		Address:	B6 United States
		Type of Veterinarian:	Referred veterinarian
		Date First Seen:	06/13/2018
		Permission to Release Records to FDA:	Yes
Sender Information:	Name:	B6	
	Address:	B6 United States	
	Contact:	Phone: B6 Email: B6	
	Permission To Contact Sender:	Yes	
	Preferred Method Of Contact:	Email	
	Reported to Other Parties:	None	
	Additional Documents:	Attachment:	Nutro Orders Amazon.pdf
Description:		Flavors of nutro max ordered off amazon	
Type:		Record	
Attachment:		B6 Medical Records.pdf	
Description:		B6 file from B6	
Type:		Medical Records	

Patient History Report

Client:

Phone:

Address:

B6

(83688)

Patient:

B6

(107186)

Species: Canine

Breed: Water Dog,
Portuguese

Sex: Neutered Male

Age: 11 Yrs. 9 Mos.

Color: Black

Date	Type	Staff	History
------	------	-------	---------

8/22/2018 TC

B6

Comments - TENTATIVE

10:22 8/22/2018

B6

Patient ID#107186

8/20/2018 TC

B6

Rx Outside Pharmacy Prescription - Phone In - TENTATIVE

Drug Name and Strength: **B6** 5mg

Dose: Give 1 tab PO TID

Quantity Dispensed: #100

Refills: 5

Pharmacy Name: **B6**

Pharmacy Contact Person:

B6

Pharmacy Phone Number:

Doctor: **B6**

Phoned in by: **B6**

Comments:

8/18/2018 TC

SNC

Rx Outside Pharmacy Prescription - Phone In - TENTATIVE

Drug Name and Strength: **B6**

Dose: 1 tab in morning, 2 tabs in afternoon, 1 tab in evening; 1.5 in AM & one in PM

Quantity Dispensed: 120; 100

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 medl note, V: Vital signs

B6

Page 1 of 20

Date: 3/20/2019 10:43 AM

Patient History Report

Client: (83688) Patient: B6 (107186)
Phone: B6 Species: Canine Breed: Water Dog, Portuguese
Address: B6 Age: 11 Yrs. 9 Mos. Sex: Neutered Male
Color: Black

Date	Type	Staff	History
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Refills: 6 for each

Pharmacy Name: B6

Pharmacy Contact Person: B6

Pharmacy Phone Number: B6

Doctor: B6

Phoned in by: B6

Comments:

8/9/2018 TC B6 Prescription Communications - TENTATIVE
22:51 8/9/2018

B6 Patient ID#107186

Prescription Communications: Called in to B6 5mg 1 tab tid #100.
Initials: B6

8/7/2018 TC B6 Prescription Communications - TENTATIVE
12:28 8/7/2018

B6 Patient ID#107186

Prescription Communications: Owner called requesting a refill of B6 mg for B6 D B6 recently increased the dose to 1.5 tabs AM, 1 tab PM. Owner would like the meds mailed to her house. Owner was driving at the time but will call back to give CC# over the phone.

Initials: B6

8/7/2018 P

B6

75.00 tablet of B6

Rx #: 288362 0 Of 5 Refills Filled by: B6

Give 1.5 tablets by mouth in the morning, 1 tablet in the evening. (This is a recently increased dose per Dr 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 medl note, V: Vital signs

B6

Page 2 of 20

Date: 3/20/2019 10:43 AM

Patient History Report

Client: [B6] h (83688)

Phone:

B6

Address:

Patient: [B6] (107186)

Species: Canine

Breed: Water Dog,
Portuguese

Age: 11 Yrs. 9 Mos.

Color: Black

Sex: Neutered Male

Date	Type	Staff	History
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8/3/2018 TC [B6] Prescription Communications - TENTATIVE
19:02 8/3/2018

[B6] Patient ID#107186

Prescription Communications: Owner called requesting written scripts be sent to her for all pets medication, mainly since Dr [B6] just spoke to owner the other day and adjusted these meds. Owner wants to get a quote from [B6] pharmacy and they need written rx's for the meds. Told owner I can write the scripts from Dr [B6] for the [B6] [B6] was through ER and would needs their approval to sign the script. Told owner I will leave note for Dr [B6] and hopefully get them mailed out to her this weekend.

Initials: [B6]

8/1/2018 TC [B6] Client Communication 2 - TENTATIVE
18:13 8/1/2018

[B6] Patient ID#107186

Comments: PCFO, asking for a call from Dr [B6] Pet has been having more syncopal episodes at home and owner wondering if they can adjust medications or add any. [B6] called and spoke with owner, recommend increasing [B6] [B6] mg afternoon, 20mg evening.

Initials: [B6]

6/27/2018 D [B6] Pulmonary hypertension Tentative
6/27/2018 D [B6] Mitral valve insufficiency Tentative
6/27/2018 P [B6] 60.00 tablet of [B6] ng Tablet (ORAL195)
Rx #: 282253 0 Of 6 Refills Filled by: [B6]
Give 1 tablet by mouth every 12 hours.

6/27/2018 C [B6] Cardiology - Dr. [B6] Consult v2 - CLOSED 07/02/2018
Date: 6/27/2018 Time: 10:16

History: [B6] presents to Dr [B6] for a recheck cardiology evaluation. Last seen June 13, 2018. Current cardiac medications: [B6]

Physical Exam: H/L; Grade IV/VI left and right holosystolic murmur; intermittent arrhythmia and no pulmonary crackles.
Body Condition Score:3- moderate

ECG: HR: 140/minute; sinus rhythm with occasional intermittent ventricular premature complexes.

Blood Pressure: 150 mmHg

ECHOCARDIOGRAM:

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 medl note, V: Vital signs

B6

Patient History Report

Client:	B6	(83688)	Patient:	B6	(107186)
Phone:			Species:	Canine	Breed: Water Dog, Portuguese
Address:			Age:	11 Yrs. 9 Mos.	Sex: Neutered Male
			Color:	Black	

Date	Type	Staff	History
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B6

B6

DIAGNOSIS: Stage C Mitral valve insufficiency, and tricuspid vavular insufficiency. Pulmonary hypertension that is stable and compensated with controlled congestive heart failure and controlled pulmonary hypertension.

THERAPEUTIC GUIDELINES: Current therapy as now being administered.

RECOMMENDATIONS: Continue home monitor and log of the resting/sleeping breathing rate (should be less than 30 breaths per minute).

CARDIOLOGY RECHECK: Three to six months dependent on clinical signs and symptoms. We wish **B6** and hid family a good Summer season.

6/19/2018 C **B6** Converted Document - CLOSED 06/20/2018
05:44 6/19/2018

B6 Patient ID#107186

Comments: O called, wanted to know if she could start giving a medication she found online called "young at heart" and what low sodium diet we recommend. Spoke with 1LD, Told O that we can not recommend giving a medication we know nothing about. However she can bring the medication to her next cardiology appt. to have Dr. **B6** evaulated what is in the medication and if it would be safe to give to the P. 1LD recommended Royal Canin ZD, O said they might start the diet but were unsure do to cost if they wanted to commit to it.

Initials: **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 medl note, V: Vital signs

B6

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Date: 3/20/2019 10:43 AM

Patient History Report

Client: Phone: Address:	B6	(83688)	Patient: B6 (107186) Species: Canine Age: 11 Yrs. 9 Mos. Color: Black	Breed: Water Dog, Portuguese Sex: Neutered Male
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Date	Type	Staff	History
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6/17/2018 C **B6** Converted Document - CLOSED 06/18/2018
04:07 6/17/2018

B6 Patient ID#107186

Comments: O called w/ concerns about **B6** 1) was on **B6** prior to hospitalization and he is itchy now. Is it okay to give **B6** w/ current medications. 2) P has been chomping and that is often a precursor to a seizure. Can she give **B6** 2 to 3 hours early if he is chomping? 3) P usually gets nexgard on the 20th of each month. Is it okay to give? 4) When can P have a bath? 5) Had D+ today. O's daughter believed from feeding too many blueberries. What to do? Spoke w/ **B6** and gave O the following answers: 1) Okay to give apoquel if itchy, no contraindications 2) Okay to give **B6** 2 hours early if P is chomping 3) Okay to give nexgard 4) P can have a bath so long as he is calm during procedure. Do not want to stress P out. 5) Keep an eye on D+ to see if due to blueberries. If continues, call for further advice. **B6**
Initials: **B6**

6/15/2018 P **B6** 15.00 CHIP of Conversion Miscellaneous Item (CNVITEM)
Rx #: 280467 Exp. 06/15/19 0 Of 0 Refills Filled by: **B6**
Give 1 tablet by mouth every 8 hours.

6/15/2018 C **B6** Converted Document - CLOSED 06/22/2018
Drug Name and Strength: **B6** mg

Dose: 1 tab PO q12hrs

Quantity Dispensed: #60

Refills: 2

Pharmacy Name: **B6**

Pharmacy Contact Person:

Pharmacy Phone Number: **B6**

Doctor: **B6**

Phoned in by: **B6**

Comments:

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 medl note, V: Vital signs

Patient History Report

Client: (83688) Patient: B6 (107186)
Phone: B6 Species: Canine Breed: Water Dog, Portuguese
Address: B6 Age: 11 Yrs. 9 Mos. Sex: Neutered Male
Color: Black

Date	Type	Staff	History
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6/15/2018 C B6 Converted Document - CLOSED 06/22/2018
Drug Name and Strength: B6 mg

Dose: 1 tab PO q12hrs

Quantity Dispensed: #60

Refills: 2

Pharmacy Name: B6

Pharmacy Contact Person:

Pharmacy Phone Number: B6

Doctor: B6

Phoned in by: B6

Comments:

6/15/2018 C B6 Converted Document - CLOSED 06/22/2018
Drug Name and Strength: B6 mg

Dose: 1 tab PO q 12hours

Quantity Dispensed: #60

Refills: 2

Pharmacy Name: B6

Pharmacy Contact Person:

Pharmacy Phone Number: B6

Doctor: 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 medl note, V: Vital signs

VSCD - B6

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Date: 3/20/2019 10:43 AM

Patient History Report

Client: (83688) **Patient:** B6 (107186)
Phone: **B6** **Species:** Canine **Breed:** Water Dog, Portuguese
Address: **B6** **Age:** 11 Yrs. 9 Mos. **Sex:** Neutered Male
Color: Black

Date	Type	Staff	History
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Phoned in by: B6

Comments:

6/15/2018 C B6 Converted Document - CLOSED 06/16/2018
 PCV: %
 TS:
 Time Drawn:
 Initials:
 Serum appearance:

6/15/2018 C B6 Converted Document - CLOSED 06/16/2018
 PCV: 41%
 TS: 7.0
 Time Drawn: 9:11a
 Initials: cb
 Serum appearance: clear

6/15/2018 L B6 Chemistry results from B4 In-clinic
 Laboratory Requisition ID: 51545 Posted Final
 Test Result Reference Range
 BUN/CREA = B6

6/15/2018 L B6 Chemistry results from B4 In-clinic
 Laboratory Requisition ID: 51545 Posted Final
 Test Result Reference Range
 BUN/UREA = B6 7 - 27
 CREA = B6 0.5 - 1.8

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 medl note, V: Vital signs

B6

Patient History Report

Client:	B6	(83688)	Patient:	B6	(107186)	
Phone:			Species:	Canine		
Address:			Age:	11 Yrs. 9 Mos.	Breed:	Water Dog, Portuguese
			Color:	Black	Sex:	Neutered Male

Date	Type	Staff	History
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6/15/2018 C **B6** Converted Document - CLOSED 06/29/2018

PHYSICAL EXAM:

B6

Subjective:
Weight:
Temp/HR/RR/MMs/CRT:
Eyes:
Ears:
Oro-nasal:
Heart:
Lungs:
Abdomen:
Rectal:
Urogenital:
Musculoskeletal/BCS:
Integument:
Lymph Nodes:
Neurologic:
Hydration/Perfusion:
Pain Scale/ASA Status:

B6

PROBLEM LIST:

Atrial and ventricular premature contractions
Pale mucous membranes
Coughing and collapse episodes
Lethargy
Stage C mitral and tricuspid valvular insufficiency with severe left side congestive heart failure and also severe pulmonary hypertension

PLAN:

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 medl note, V: Vital signs

B6

Patient History Report

Client:	B6	(83688)	Patient:	B6	(107186)	
Phone:			Species:	Canine		
Address:			Age:	11 Yrs. 9 Mos.	Breed:	Water Dog, Portuguese
			Color:	Black	Sex:	Neutered Male

Date	Type	Staff	History
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B6

Transition to oral meds

COMMENTS/CLIENT COMMUNICATION:

Discussed with owner regarding **B6** status this morning, out of oxygen, eating still, will recheck bloodwork and see where he is at this point. Seizure during this hospitalization. Going to continue anti-seizure medication.

Clinician Name 1st Shift: **B6** VMD, DACVECC 8a-6p

1st 12hr Progress Notes: 2pm:

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 medl note, V: Vital signs

B6

Patient History Report

Client:	B6	(83688)	Patient:	B6	ar (107186)
Phone:			Species:	Canine	Breed: Water Dog, Portuguese
Address:			Age:	11 Yrs. 9 Mos.	Sex: Neutered Male
			Color:	Black	

Date	Type	Staff	History
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Clinician Name 2nd Shift: **B6** VMD 8p-8a

2nd 12hr Progress Notes:

6/15/2018 C **B6** Converted Document - CLOSED 06/22/2018

B6
 11 Yrs. 7 Mos. Neutered Male Portuguese Water Dog
 Test Result Flag Units Normal Range

Element POC 1 - Friday, June 15, 2018 9:21 AM Dog ID:107186

pO2		mmHg 89.0 - 104.0
cSO2		% 90.0 - 100.0
pCO2		mmHg 35.0 - 41.0
Bicarbonate		mmol/L 20.0 - 25.0
cTCO2		mmol/L 18.0 - 28.0
pH		7.360 - 7.460
BE, ECF		mmol/L -5.0 - 5.0
Sodium		mmol/L 140 - 151
Potassium		mmol/L 3.5 - 5.0
Chloride		mmol/L 106 - 127
Calcium, io		mmol/L 1.13 - 1.42
Anion gap		mmol/L 5 - 22
Lactate		mmol/L 0.60 - 3.00
Creatinine		mg/dL 0.40 - 1.50
Glucose		mg/dL 63 - 124
HCT		36 - 55

6/14/2018 C **B6** Converted Document - CLOSED 06/21/2018

B6
 11 Yrs. 7 Mos. Neutered Male Portuguese Water Dog

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 medl note, V: Vital signs

VSCD - **B6**

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Date: 3/20/2019 10:43 AM

Patient History Report

Client:	83688)	Patient:	B6 (107186)
Phone:	B6	Species:	Canine
Address:		Breed:	Water Dog, Portuguese
		Age:	11 Yrs. 9 Mos.
		Color:	Black
		Sex:	Neutered Male

Date	Type	Staff	History
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TEST	Result	Flag	Normal Range	Units
Element POC_1 - Thursday, June 14, 2018 9:55 AM				Dog ID:107186
pO2	B6		24.0 - 54.0	mmHg
eSO2			40.0 - 90.0	%
pCO2			30.0 - 47.0	mmHg
Bicarbonate			16.0 - 28.0	mmol/L
eTCO2			18.0 - 28.0	mmol/L
pH			7.360 - 7.460	
BE, ECF			-5.0 - 5.0	mmol/L
Sodium			140 - 151	mmol/L
Potassium			3.5 - 5.0	mmol/L
Chloride			106 - 127	mmol/L
Calcium, ionized			1.13 - 1.42	mmol/L
Anion gap			5 - 22	mmol/L
Lactate			0.60 - 3.00	mmol/L
Creatinine			0.40 - 1.50	mg/dL
Glucose			63 - 124	mg/dL
HCT			36 - 55	%
				B6

PCV: 40%
TS: 7.0
serum clear. snc

6/14/2018 L	B6	Chemistry results from IDEXX VetLab In-clinic		
		Laboratory Requisition ID: 51529	Posted	Final
		Test	Result	Reference Range
		BUN/CREA =	B6	
6/14/2018 L	B6	Chemistry results from IDEXX VetLab In-clinic		
		Laboratory Requisition ID: 51529	Posted	Final
		Test	Result	Reference Range
		BUN/UREA =	B6	7 - 27
		CREA =	B6	0.5 - 1.8

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 medl note, V: Vital signs

B6

Patient History Report

Client:	(83688)	Patient:	B6 (107186)
Phone:	B6	Species:	Canine
Address:		Breed:	Water Dog, Portuguese
		Age:	11 Yrs. 9 Mos.
		Color:	Black
		Sex:	Neutered Male

Date	Type	Staff	History
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6/14/2018	C	B6	Converted Document - CLOSED 06/15/2018
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PCV: 40%
TS: 7.0
Time Drawn: 9:47am
Initials: snc
Serum appearance: clear

6/14/2018	C	B6	Converted Document - CLOSED 06/28/2018
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PHYSICAL EXAM: Overnight: T 102.6 P 140 R 60. increased RE overnight. comfortable and stable in oxygen. continue plan as above. eating and drinking normally.

B6

PROBLEM LIST: Atrial and ventricular premature contractions
Pale mucous membranes

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 medl note, V: Vital signs

B6

Page 12 of 20

Date: 3/20/2019 10:43 AM

Patient History Report

Client:	B6	(83688)	Patient:	B6	(107186)	
Phone:			Species:	Canine		
Address:			Age:	11 Yrs. 9 Mos.	Breed:	Water Dog, Portuguese
			Color:	Black	Sex:	Neutered Male

Date	Type	Staff	History
------	------	-------	---------

Coughing and collapse episodes
Lethargy
Stage C mitral and tricuspid valvular insufficiency with severe left side congestive heart failure and also severe pulmonary hypertension

PLAN:

B6

Transition to oral meds

COMMENTS/CLIENT COMMUNICATION:

Discussed with owner regarding **B6** we are still trying to get him out of failure, but he requires oxygen still. We are going to keep going and see if we can continue with diuretics, cardiac medications, and supportive care over the next 48 hours.

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B6

Patient History Report

Client: (83688) Patient: B6 (107186)
 Phone: B6 Species: Canine Breed: Water Dog, Portuguese
 Address: B6 Age: 11 Yrs. 9 Mos. Sex: Neutered Male
 Color: Black

Date	Type	Staff	History
------	------	-------	---------

Clinician Name 1st Shift: B6, VMD, DACVECC 8a-6p

1st 12hr Progress Notes: 2pm: B6 had a seizure - resolved with keppra and valium. We are going to monitor B6 and add in B6 at this point. B6 is doing well otherwise and respiratory rate and effort seems to be improved.

Clinician Name 2nd Shift: B6, VMD 8p-8a

2nd 12hr Progress Notes: T 101.4 P 110 R 80 with an increased RE.
 Harsh lung sounds bilaterally
 4/6 HM, pulses ss, occasional premature beats ausc
 No collapse episodes overnight
 IVC replaced at 10 pm since Tucker was reactive during lasix administration
 Continue O2 supplementation overnight due to persistent inc RR/RE
 No seizure activity overnight

6/14/2018 C B6 Converted Document - CLOSED 06/15/2018
 PCV: 41%
 TS: 5.6
 Time Drawn: 12:30am
 Initials: SCH
 Serum appearance: clear

Date	Type	Staff	Test	Result	Reference Range	Posted	Final
6/14/2018 L		B6	Chemistry results from IDEXX VetLab In-clinic Laboratory Requisition ID: 51520	Na/K =	B6		
6/14/2018 L		B6	Chemistry results from IDEXX VetLab In-clinic Laboratory Requisition ID: 51520	ALB =	B6	2.2 - 3.9	

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Address:		Breed:	Water Dog, Portuguese
		Age:	11 Yrs. 9 Mos.
		Color:	Black
		Sex:	Neutered Male

Date	Type	Staff	History
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ALKP =	B6	23 - 212
ALT =		10 - 125
BUN/UREA =		7 - 27
Ca =		7.9 - 12.0
Chloride =		109 - 122
CHOL =		110 - 320
CREA =		0.5 - 1.8
GGT =		0 - 11
GLU =		70 - 143
PHOS =		2.5 - 6.8
Potassium =		3.5 - 5.8
TBIL <		0.0 - 0.9
TP =		5.2 - 8.2
Sodium =		144 - 160
GLOB =		2.5 - 4.5
OSM calc =		
ALB/GLOB =		
BUN/CREA =		

6/14/2018 L

B6

Hematology results from IDEXX VetLab In-clinic			
Laboratory Requisition ID: 51520		Posted	Final
Test	Result	Reference Range	
BASO =	B6	0.00 - 0.10	
EOS =		0.06 - 1.23	
HCT =		37.3 - 61.7	
HGB =		13.1 - 20.5	
LYMPHS =		1.05 - 5.10	
MCH =		21.2 - 25.9	
MCHC =		32.0 - 37.9	
MCV =		61.6 - 73.5	
MONOS =		0.16 - 1.12	
MPV =		8.7 - 13.2	
RBC =		5.65 - 8.87	
WBC =		5.05 - 16.76	
%LYMPHS =			
%MONOS =			
NEUT =		2.95 - 11.64	
%NEUT =			
%EOS =			
%BASO =			
PLT =		148 - 484	
Retics =		10.0 - 110.0	
%Retics =			
RDW =	13.6 - 21.7		
PDW =	9.1 - 19.4		
PCT =	0.14 - 0.46		
PLT Abnormal Distribution			

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B6

Page 15 of 20

Date: 3/20/2019 10:43 AM

Patient History Report

Client:	B6	(83688)	Patient:	B6	(107186)
Phone:			Species:	Canine	
Address:			Age:	11 Yrs. 9 Mos.	
			Color:	Black	
			Breed:	Water Dog, Portuguese	
			Sex:	Neutered Male	

Date	Type	Staff	History
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6/14/2018	P	B6	60.00 CHIP of Conversion Miscellaneous Item (CNVITEM) Rx #: 280230 Exp. 06/14/19 0 Of 0 Refills Filled by: B6 Give 1 tablet by mouth every 12 hours until otherwise directed. This medication may cause increased thirst and urination.
6/14/2018	P		60.00 CHIP of Conversion Miscellaneous Item (CNVITEM) Rx #: 280229 Exp. 06/14/19 0 Of 0 Refills Filled by: B6 Give 1 tablet by mouth every 12 hours until otherwise directed
6/14/2018	P		60.00 CHIP of Conversion Miscellaneous Item (CNVITEM) Rx #: 280228 Exp. 06/14/19 0 Of 0 Refills Filled by: B6 Give 1 tablet by mouth every 12 hours until otherwise directed

6/13/2018 C **B6** Converted Document - CLOSED 06/15/2018
 Date: 6/13/2018 Time: 16:25
 History: **B6** presents to Dr **B6** for a cardiology consultation through our emergency service.
 Physical Exam: Clinical signs of congestive heart failure; the thoracic radiographs confirm severe left side congestive heart failure with hilar and peripheral alveolar pulmonary edema.
 Body Condition Score: 3- moderate

B6

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B6

Patient History Report

Client:	Phone:	Address:	B6	(83688)	Patient: B6 (107186) Species: Canine Age: 11 Yrs. 9 Mos. Color: Black	Breed: Water Dog, Portuguese Sex: Neutered Male
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Date	Type	Staff	History
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DIAGNOSIS: Stage C mitral and tricuspid valvular insufficiency with severe left side congestive heart failure and also severe pulmonary hypertension.

THERAPEUTIC GUIDELINES: In hospital oxygen and parenteral lasix per the Emergency Department; start pimobendan 50 mg tab twice daily; sildenafil 20 mg twice daily and lasix 50 mg twice daily (maintenance; higher doses initially).

RECOMMENDATIONS: Per Emergency service; a poor prognosis is evident at this time.

CARDIOLOGY RECHECK: Three to four weeks; we are sorry about **B6** diagnosis and hope he can cover to maintain a good quality life for as long as possible.

6/13/2018	C	B6	Converted Document - CLOSED 06/20/2018
<p>HISTORY:</p> <p>B6 started coughing the last week of May, and he has been progressively lethargic since that time. He was seen by his primary care veterinarian. At the time, radiographs were recommended and declined. He was started on Benadryl, but when no improvement was seen after one week he was started on B6 mg PO twice daily. There was only a mild improvement seen on the B6 so it was recommended for B6 to have radiographs and an echocardiogram. B6 has an appointment next week with the cardiology service but on Friday evening B6 had a collapse episode after coughing (became limp, unresponsive). He was given mouth to snout breaths, and recovered after a few minutes. B6 had another episode of collapse after coughing this afternoon and it was elected to bring B6 in through the emergency service at B6.</p> <p>Prior Medical History: Skin issues, Seizures; happen about once per month. No current medications for seizures. History of heart murmur that was first noted in 2016</p> <div style="border: 1px solid black; padding: 5px; text-align: center; margin: 10px 0;"> B6 </div> <p>Vaccines/preventatives: UTD on vaccinations</p>			

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B6

PROBLEM LIST:

Atrial and ventricular premature contractions
Pale mucous membranes
Coughing and collapse episodes
Lethargy
Stage C mitral and tricuspid valvular insufficiency with severe left side congestive heart failure and also severe pulmonary hypertension

PLAN:

B6

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Treatments

B6

COMMENTS/CLIENT
COMMUNICATION:

Clinician Name 1st Shift: B6 VMD 10a-10p

1st 12hr Progress Notes: Very mild improvement in RR/RE in O2 and after 1st dose of lasix, improved color though.

Called O at 5:45pm with update after cardio consult. Discussed diagnosis and unfortunate poor prognosis. Discussed two options

B6

B6

continued care. Updated that next update in AM and will receive updat from diff

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Date	Type	Staff	History
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doctor tomorrow. Goals will be to wean off O2 sometime tomorrow, check kidney values daily to see if tolerating furosemide at current dose.

Plan for 6/14

Recheck PCV/TS, EPOC, BUN, Crea daily

B6

EKG if HR > 150

B6

Told Os it is possible for p to go home as early as Thursday night but realistically more likely sometime Fri to make sure doesn't go back into failure as weaning IV lasix and changing to oral.

Clinician Name 2nd Shift: B6 VMD 8p-8a

2nd 12hr Progress Notes: T 102.6 P 140 R 60. increased RE overnight. comfortable and stable in oxygen. continue plan as above. eating and drinking normally.

6/13/2018 V

B6

Jun 13, 2018 03:37 PM Staff: B6

Weight : 25.45 kilograms

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B6

Report Details - EON-382849

ICSR:	2064322																																																																				
Type Of Submission:	Initial																																																																				
Report Version:	FPSR.FDA.PETF.V.V1																																																																				
Type Of Report:	Adverse Event (a symptom, reaction or disease associated with the product)																																																																				
Reporting Type:	Voluntary																																																																				
Report Submission Date:	2019-03-20 14:21:29 EDT																																																																				
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			<div>B6</div> <div>United States</div>
Sender Information:	Name:	<div>B6</div> <div>United States</div>	
	Address:		
	Contact:	Phone:	<div>B6</div>
		Other Phone:	
		Email:	
	Permission To Contact Sender:	Yes	
	Preferred Method Of Contact:	Email	
Additional Documents:			

Report Details - EON-385037

ICSR:	2065806																																															
Type Of Submission:	Initial																																															
Report Version:	FPSR.FDA.PETF.V.V1																																															
Type Of Report:	Adverse Event (a symptom, reaction or disease associated with the product)																																															
Reporting Type:	Voluntary																																															
Report Submission Date:	2019-04-14 19:09:49 EDT																																															
Reporter is the Animal Owner:	Yes																																															
Reported Problem:	<table><tr><td>Problem Description:</td><td colspan="2">A heart function blood test was run on B6 and B6 as part of their senior examination. B6 numbers came back at around B6 top of normal range. B6 While not formally diagnosed, DCM is suspected. B6 numbers came back at B6. An ultrasound was run on B6 and she has been diagnosed with DCM, sever dilation of left ventricle with mild thickening of the mitral valve. B6 is deemed to be at moderate risk for CHF. Both dogs are being given Taurine supplements and traditional dog food. B6 is currently taking a beta blocker and Vetmedin. Both dogs were fed Nature's Domain (Costco or Kirkland brand of Grain Free Dog Food). They each rotated through the Salmon and Sweet Potato, Turkey and Sweet Potato, and Beef and Sweet Potato formulas throughout their lives. The grain free food was recommended for a third Labrador Retriever with severe allergies. This third dog was never diagnosed with DCM and was euthanized in B6 at 15+ years due to severe arthritis.</td></tr><tr><td>Date Problem Started:</td><td colspan="2">03/11/2019</td></tr><tr><td>Concurrent Medical Problem:</td><td colspan="2">No</td></tr><tr><td>Outcome to Date:</td><td colspan="2">Stable</td></tr></table>			Problem Description:	A heart function blood test was run on B6 and B6 as part of their senior examination. B6 numbers came back at around B6 top of normal range. B6 While not formally diagnosed, DCM is suspected. B6 numbers came back at B6. An ultrasound was run on B6 and she has been diagnosed with DCM, sever dilation of left ventricle with mild thickening of the mitral valve. B6 is deemed to be at moderate risk for CHF. Both dogs are being given Taurine supplements and traditional dog food. B6 is currently taking a beta blocker and Vetmedin. Both dogs were fed Nature's Domain (Costco or Kirkland brand of Grain Free Dog Food). They each rotated through the Salmon and Sweet Potato, Turkey and Sweet Potato, and Beef and Sweet Potato formulas throughout their lives. The grain free food was recommended for a third Labrador Retriever with severe allergies. This third dog was never diagnosed with DCM and was euthanized in B6 at 15+ years due to severe arthritis.		Date Problem Started:	03/11/2019		Concurrent Medical Problem:	No		Outcome to Date:	Stable																																		
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Adverse Event Abate After Product Stop:	No																																															
Product Use	No																																															

		Started Again:		
		Perceived Relatedness to Adverse Event:	Probably related	
		Other Foods or Products Given to the Animal During This Time Period:	Yes	
	Manufacturer /Distributor Information:			
	Purchase Location Information:	Name:	Costco	
		Address:	B6 United States	
Animal Information:	Name:	B6		
	Type Of Species:	Dog		
	Type Of Breed:	Retriever - Labrador		
	Gender:	Mixed Population of Female and Male		
	Reproductive Status:	Neutered		
	Weight:	65 Pound		
	Age:	10 Years		
	Assessment of Prior Health:	Good		
	Number of Animals Given the Product:	3		
	Number of Animals Reacted:	2		
	Owner Information:			
	Healthcare Professional Information:	Practice Name:	B6	
		Contact:	Name:	B6
			Phone:	
		Address:	B6 United States	
		Type of Veterinarian:	Primary/regular veterinarian	
Date First Seen:		02/19/2019		
Permission to Release Records to FDA:		Yes		
Sender Information:	Name:	B6		
	Address:	B6 United States		
	Contact:	Phone:	B6	
		Email:	B6	
	Reporter Wants to Remain Anonymous:	No		
Permission To Contact Sender:	Yes			

	Preferred Method Of Contact:	Email
	Reported to Other Parties:	None
Additional Documents:		

Report Details - EON-380716

ICSR:	2063119		
Type Of Submission:	Initial		
Report Version:	FPSR.FDA.PETF.V.V1		
Type Of Report:	Adverse Event (a symptom, reaction or disease associated with the product)		
Reporting Type:	Voluntary		
Report Submission Date:	2019-02-24 18:45:24 EST		
Reported Problem:	Problem Description:	Has been regularly rechecked after PDA occlusion. Progressive reduction in left ventricular contractile function noted on most recent echo. Eating BEG diet. Owner changed to Royal Canin Early Cardiac diet and we will recheck in April	
	Date Problem Started:	01/02/2019	
	Concurrent Medical Problem:	Yes	
	Pre Existing Conditions:	PDA - occluded 2016; overweight	
	Outcome to Date:	Stable	
Product Information:	Product Name:	Solid Gold Mighty Mini Beef, Sweet Potato, and Apple grain free dry	
	Product Type:	Pet Food	
	Lot Number:		
	Package Type:	BAG	
	Product Use Information:	Description:	1/4 cup kibble (divided into 2 meals) 1 tbsp cooked chicken BID Owner switched to Weight Control version of same diet (salmon, lentil, green bean) just a few days before visit
	Manufacturer /Distributor Information:		
	Purchase Location Information:		
Animal Information:	Name:	B6	
	Type Of Species:	Dog	
	Type Of Breed:	Chihuahua	
	Gender:	Female	
	Reproductive Status:	Neutered	
	Weight:	3.72 Kilogram	
	Age:	9 Years	
	Assessment of Prior Health:	Good	
	Number of Animals Given the Product:	1	
	Number of Animals Reacted:	1	
	Owner Information:	Owner Information provided:	Yes
		Contact:	Name: B6
			Phone: B6
			Email: B6
		Address:	B6 United States
	Healthcare Professional Information:	Practice Name:	Tufts Cummings School of Veterinary Medicine
		Contact:	Name: Lisa Freeman

			Phone: (508) 887-4523
			Email: lisa.freeman@tufts.edu
		Address:	200 Westboro Rd North Grafton Massachusetts 01536 United States
Sender Information:	Name:	Lisa Freeman	
	Address:	200 Westboro Rd North Grafton Massachusetts 01536 United States	
	Contact:	Phone:	5088874523
		Email:	lisa.freeman@tufts.edu
	Permission To Contact Sender:	Yes	
	Preferred Method Of Contact:	Email	
Additional Documents:	Attachment:	T_26346.pdf	
	Description:	Taurine - will send rest of records by email (too large)	
	Type:	Laboratory Report	

Report Details - EON-360238

ICSR:	2052688		
Type Of Submission:	Initial		
Report Version:	FPSR.FDA.PETF.V.V1		
Type Of Report:	Both		
Reporting Type:	Voluntary		
Report Submission Date:	2018-07-24 19:15:00 EDT		
Reporter is the Animal Owner:	Yes		
Reported Problem:	Problem Description:	Just before [REDACTED] second birthday, her energy level dropped and she developed a dry cough in the mornings. On the advice of a friend, I had her blood tested for taurine because she was on a grain-free food high in legumes. The result was [REDACTED] B6 ml by the plasma test (normal level is 60-120 ml). I then took her to cardiologist Dr. Joshua Stern at UCD VMTH. Dr. Stern did an echocardiogram and also found the Mitral Valve Dysplasia, but did not see SAS. He found Mild to Moderate DCM. His report reads: "Moderately dilated left ventricular chamber and LV systolic dysfunction - ddx: taurine responsive DCM vs idiopathic DCM. Lv chamber has significantly increased in the recheck interim [REDACTED] B6 previous July 2016)." He prescribed increasing the taurine and l-carnitine supplements and return for repeat echo in 3-4 months.	
	Date Problem Started:	05/08/2017	
	Concurrent Medical Problem:	Yes	
	Pre Existing Conditions:	She had inherited Mitral Valve Displasia that was diagnosed by a board certified cardiologist when she was one year of age. I was told that it was mild and she should live a normal life. He also diagnosed SAS, which was later listed as equivocal.	
	Outcome to Date:	Better/Improved/Recovering	
Product Information:	Product Name:	Taste of the Wild Pine Forrest, Venison and Legumes	
	Product Type:	Pet Food	
	Lot Number:		
	Package Type:	BAG	
	Package Size:	28 Pound	
	Purchase Date:	04/01/2016	
	Possess Unopened Product:	No	
	Possess Opened Product:	No	
	Storage Conditions:	In the bag it came in until it was gone.	
	Product Use Information:	Description:	Kibble was fed in a stainless steel bowl with water and supplements twice a day
		First Exposure Date:	05/14/2016
		Last Exposure Date:	05/09/2017
		Time Interval between Product Use and Adverse Event:	1 Years
		Product Use Stopped After the Onset of the Adverse Event:	Yes
		Adverse Event Abate After Product Stop:	Yes
		Product Use	No

		Started Again:					
		Perceived Relatedness to Adverse Event:		Definitely related			
		Other Foods or Products Given to the Animal During This Time Period:		No			
		Manufacturer /Distributor Information:					
Animal Information:	Purchase Location Information:	Name:	Chewy.com				
		Address:	1855 Griffin Road Dania Beach Florida 33004 United States				
	Name: B6						
	Type Of Species: Dog						
	Type Of Breed: Retriever - Golden						
	Gender: Female						
	Reproductive Status: Intact						
	Pregnancy Status: Not Pregnant						
	Lactation Status: Not Applicable						
	Weight: 68.5 Pound						
	Age: 3 Years						
	Assessment of Prior Health: Good						
	Number of Animals Reacted: 1						
	Owner Information:						
	Healthcare Professional Information:	Practice Name:	UCD VMTH Cardiology				
		Contact:	Name:	Joshua Stern			
			Phone:	1-530-752-2475			
			Other Phone:	9259899795			
		Address:	1 Garrod Drive Davis California 95616 United States				
			Type of Veterinarian:	Referred veterinarian			
			Date First Seen:	07/06/2016			
		Permission to Release Records to FDA: Yes					
Sender Information:	Name:						
	Address: B6						
	United States						
	Contact:	Phone:	B6				
		Other Phone:					
		Email:					

	Permission To Contact Sender:	Yes
	Preferred Method Of Contact:	Email
	Reported to Other Parties:	Other
Additional Documents:		
	Attachment:	B6 echo ucd 7.6.17.pdf
	Description:	B6 echo at UCD on 7/6/2017
	Type:	Echocardiogram
	Attachment:	7.7.2016 B6
	Description:	B6 echo at 1 y/o by B6 on 7/7/2016
	Type:	Echocardiogram
	Attachment:	3.29.18 Dr. Stern Rept.pdf
	Description:	B6 third and most recent Echo at UCD 3/29/18
	Type:	Echocardiogram
	Attachment:	11.17.17 B6 Dr. Stern UCD echo.pdf
	Description:	B6 second echo at UCD VMTH 11/17/17
	Type:	Echocardiogram



Discharge Instructions to Owner

Admission: 29Mar18

Small Animal Outpatient

Visit#: 488CZ

Discharge:

Status: Open

B6

Clinician: Card-Other

B6

Birth: **B6** Sex: F

Species: K9

Breed: GOLDEN RETRIEVER

Weight: 31.8KG

Discharge Instructions

- 1) Thank you for bringing **B6** in to the UC Davis VMTH Cardiology Service for a recheck evaluation of her taurine-deficient DCM.

B6

- 4) ASSESSMENT: **B6** taurine-deficiency DCM is static based on her heart chamber sizes and function. Her mitral regurgitation is evidence of her mitral valve dysplasia, which is a developmental problem that she was born with.

5) MEDICATIONS:

B6

- 7) L-carnitine: Please discontinue.
- 8) MONITORING: Please continue monitoring **B6** for exercise intolerance, lethargy, coughing, and fainting episodes (syncope).
- 9) RECHECK: We would like to see **B6** back in 6 months for a recheck echocardiogram.
- 10) Thank you for entrusting us with **B6** care. She is a very sweet girl and she was a pleasure to work with.
- 11) Please call with any questions or concerns - **B6**
- 12) Cardiology Faculty: Dr. Joshua Stern
- 13) Cardiology Resident: **B6**
- 14) Cardiology Student: **B6**

B6

Patient Name: **B6**
Medical Rec #: **B6**
DOB:
Age:
Sex: Fi
Sonographer: Joshua A Stern DVM, PhD, Diplomate
ACVIM (Cardiology)

Date of Exam: 11/17/2017
Breed: Golden Retriever
Weight: 68 lb
BSA: 0.99 m²
BP-sys: not obtained
HR: 98

Diagnosis: Taurine responsive cardiomyopathy (improved since previous evaluation)

LV Area
LV Vol
Vol Index
Maj Axis
LV FAC % (A4C)
LV EF % Simpson's MOD

A4C Diast Syst

B6

2D
LA d
Ao s
LA/Ao

B6

M-mode
RV
IVS
LV
LVPW
LA

B6

Tissue Doppler:

Lateral

E'
A'
E/E'
E'/A'
Aortic Valve:
VMax
Mitral Valve:
Mn Grad
P1/2T
MV Area

B6

Pulmonic valve:
Vmax

CLINICIAN INTERPRETATION:

Left Ventricle: The LV fractional area change is normal, measured from the apical 4 chamber view.

ECHO SUMMARY:

1. Fundic/Retinal Examination: normal.
2. Whole blood taurine level: pending.
3. Continue supplementation - retest in 4 months as there is still ventricular chamber enlargement and low normal systolic function.
4. Left atrial size has normalized at this time suggesting clear improvement.

Joshua A Stern DVM, PhD, Diplomate ACVIM (Cardiology)

Electronically signed on 11/17/2017 on 1:04:41 PM

Report Details - EON-375111																																																																							
ICSR:	2060740																																																																						
Type Of Submission:	Initial																																																																						
Report Version:	FPSR.FDA.PETF.V.V1																																																																						
Type Of Report:	Adverse Event (a symptom, reaction or disease associated with the product)																																																																						
Reporting Type:	Voluntary																																																																						
Report Submission Date:	2019-01-01 16:29:18 EST																																																																						
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	Address:	200 Westboro Rd North Grafton Massachusetts 01536 United States	
	Contact:	Phone:	5088874523
		Email:	lisa.freeman@tufts.edu
	Permission To Contact Sender:	Yes	
	Preferred Method Of Contact:	Email	
Additional Documents:	Attachment:	rpt_medical_record_preview B6 pdf	
	Description:	B6 records	
	Type:	Medical Records	

Report Details - EON-376448													
ICSR:		2061217											
Type Of Submission:		Initial											
Report Version:		FPSR.FDA.PETF.V.V1											
Type Of Report:		Adverse Event (a symptom, reaction or disease associated with the product)											
Reporting Type:		Voluntary											
Report Submission Date:		2019-01-15 15:57:50 EST											
Reported Problem:		Problem Description: Eating BEG diet Syncopal episodes - identified arrhythmia recently Owner changing diet and will recheck in 3 months Elevated BNP [B6] taurine and troponin pending 2 other dogs in household eating same diet - they have not been screened yet Date Problem Started: 01/03/2019 Concurrent Medical Problem: Yes Pre Existing Conditions: Dental disease, anxiety, history of cruciate tear Outcome to Date: Stable											
Product Information:		Product Name: 4Health salmon and potato adult dog food Product Type: Pet Food Lot Number: Product Use Information: Description: Alternates with other product listed Manufacturer /Distributor Information: Purchase Location Information: Product Name: 4Health whitefish and potato dry Product Type: Pet Food Lot Number: Product Use Information: Description: Alternates with other listed 4Health product Manufacturer /Distributor Information: Purchase Location Information:											
Animal Information:		Name: [B6] Type Of Species: Dog Type Of Breed: Pit Bull Gender: Male Reproductive Status: Neutered Weight: 33.4 Kilogram Age: 7.5 Years Assessment of Prior Health: Excellent Number of Animals Given the Product: 3 Number of Animals Reacted: 1 Owner Information: <table border="1"> <tr> <td>Owner Information provided:</td> <td>Yes</td> </tr> <tr> <td>Contact:</td> <td> <table border="1"> <tr> <td>Name:</td> <td>[B6]</td> </tr> <tr> <td>Phone:</td> <td>[B6]</td> </tr> <tr> <td>Email:</td> <td>[B6]</td> </tr> </table> </td> </tr> </table>		Owner Information provided:	Yes	Contact:	<table border="1"> <tr> <td>Name:</td> <td>[B6]</td> </tr> <tr> <td>Phone:</td> <td>[B6]</td> </tr> <tr> <td>Email:</td> <td>[B6]</td> </tr> </table>	Name:	[B6]	Phone:	[B6]	Email:	[B6]
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Contact:	<table border="1"> <tr> <td>Name:</td> <td>[B6]</td> </tr> <tr> <td>Phone:</td> <td>[B6]</td> </tr> <tr> <td>Email:</td> <td>[B6]</td> </tr> </table>	Name:	[B6]	Phone:	[B6]	Email:	[B6]						
Name:	[B6]												
Phone:	[B6]												
Email:	[B6]												

		Address:	<div style="border: 1px dashed black; padding: 5px; display: inline-block;">B6</div> United States	
	Healthcare Professional Information:	Practice Name:	Tufts Cummings School of Veterinary Medicine	
		Contact:	Name:	Lisa Freeman
			Phone:	(508) 887-4523
Email:	lisa.freeman@tufts.edu			
Address:	200 Westboro Rd North Grafton Massachusetts 01536 United States			
Sender Information:	Name:	Lisa Freeman		
	Address:	200 Westboro Rd North Grafton Massachusetts 01536 United States		
		Contact:	Phone:	5088874523
	Email:		lisa.freeman@tufts.edu	
	Permission To Contact Sender:	Yes		
Preferred Method Of Contact:	Email			
Additional Documents:	Attachment:	<div style="border: 1px dashed black; padding: 2px; display: inline-block;">B6</div> medical_record_preview <div style="border: 1px dashed black; padding: 2px; display: inline-block;">B6</div> .pdf		
	Description:	Records		
	Type:	Medical Records		