Food and Drug Administration
Center for Drug Evaluation and Research

Summary Minutes of the Dermatologic and Ophthalmic Drugs Advisory Committee Meeting
October 13, 2017

Location: The FDA White Oak Campus, Building 31 Conference Center, The Great Room (Rm. 1503), 10903 New Hampshire Avenue, Silver Spring, Maryland.

Topic: The committee discussed the safety and efficacy of new drug application (NDA) 208254, for netarsudil ophthalmic solution 0.02%, submitted by Aerie Pharmaceuticals Inc., for the proposed indication to reduce elevated intraocular pressure (IOP) in patients with open-angle glaucoma (OAG) or ocular hypertension (OHT).

These summary minutes for the October 13, 2017 meeting of the Dermatologic and Ophthalmic Drugs Advisory Committee of the Food and Drug Administration were approved on October 20, 2017.

I certify that I attended the October 13, 2017, meeting of the Dermatologic and Ophthalmic Drugs Advisory Committee of the Food and Drug Administration and that these minutes accurately reflect what transpired.

/s/
LaToya Bonner, PharmD
Designated Federal Officer, DODAC

/s/
James Chodosh, MD
Chairperson, DODAC

Summary Minutes of the
Dermatologic and Ophthalmic Drugs Advisory Committee Meeting
October 13, 2017

The following is the final report of the Dermatologic and Ophthalmic Drugs Advisory Committee (DODAC) meeting held on October 13, 2017. A verbatim transcript will be available in approximately six weeks, sent to the Division of Transplant and Ophthalmology Products and posted on the FDA website at:
https://www.fda.gov/AdvisoryCommittees/CommitteesMeetingMaterials/Drugs/DermatologicandOphthalmicDrugsAdvisoryCommittee/ucm576956.htm
.
All external requests for the meeting transcript should be submitted to the CDER Freedom of Information Office.

The Dermatologic and Ophthalmic Drugs Advisory Committee (DODAC) of the Food and Drug Administration, Center for Drug Evaluation and Research met on October 13, 2017, at the FDA White Oak Campus, Building 31 Conference Center, the Great Room (Rm. 1503), 10903 New Hampshire Avenue, Silver Spring, Maryland. Prior to the meeting, the members and temporary voting members were provided the briefing materials from the FDA and Aerie Pharmaceuticals, Inc. The meeting was called to order by James Chodosh, MD (Chairperson). The conflict of interest statement was read into the record by LaToya Bonner, PharmD (Designated Federal Officer). There were approximately 80 people in attendance. There were no Open Public Hearing (OPH) presentations.

Issue: The committee discussed the safety and efficacy of new drug application (NDA) 208254, for netarsudil ophthalmic solution 0.02%, submitted by Aerie Pharmaceuticals, Inc., for the proposed indication to reduce elevated intraocular pressure (IOP) in patients with open-angle glaucoma (OAG) or ocular hypertension (OHT).

Attendance:

DODAC Members Present (Voting): James Chodosh, MD (Chairperson); Geoffrey Emerson, MD; Sidney Gicheru, MD; David Yoo, MD

DODAC Members Not Present (Voting): Kory Capozza, MPH (Consumer Representative); Mary Elizabeth Hartnett, MD;

DODAC Member Present (Non-Voting): Marla B. Sultan, MD, MBA (Industry Representative)

Temporary Members (Voting): Jo Ellen DeLuca (Patient Representative); Randy Hawkins, MD (Acting Consumer Representative); Tonya King, PhD; Young Kwon, MD; Mildred Olivier, MD; Peter Zloty, MD

FDA Participants (Non-Voting): John Farley, MD; Wiley Chambers, MD; Sonal D. Wadhwa, MD; Yunfan Deng, PhD

Designated Federal Officer (Non-Voting): LaToya Bonner, PharmD

Open Public Hearing Speakers: None

The agenda was as follows:

8:30 a.m.	Call to Order and Introduction of Committee	**James Chodosh, MD** Chairperson, DODAC
8:35 a.m.	Conflict of Interest Statement	**LaToya Bonner, PharmD, NCPS** Designated Federal Officer, DODAC
8:40 a.m.	FDA Opening Remarks	**Wiley A. Chambers, MD** Deputy Director Division of Transplant and Ophthalmology Products (DTOP) Office of Antimicrobial Products (OAP) Office of New Drugs (OND), CDER, FDA
8:45 a.m.	**APPLICANT PRESENTATIONS**	**Aerie Pharmaceuticals, Inc.**
	Introduction	**Marvin Garrett** Vice President Regulatory Affairs and Quality Assurance Aerie Pharmaceuticals, Inc.
	Unmet Medical Needs	**Richard A. Lewis, MD** Chief Medical Officer Aerie Pharmaceuticals, Inc. Past President, AGS
	Program Design and Efficacy	**Casey Kopczynski, PhD** Chief Scientific Officer Aerie Pharmaceuticals, Inc.
	Safety	**Theresa Heah, MD, MBA** Vice President, Clinical Research and Medical Affairs Aerie Pharmaceuticals, Inc.
	Benefits and Risks	**Janet Serle, MD** Professor of Ophthalmology Glaucoma Fellowship Director Icahn School of Medicine at Mount Sinai
9:45 a.m.	Clarifying Questions	

10:15 a.m. **FDA PRESENTATIONS**

FDA Clinical Presentation	**Sonal D. Wadhwa, MD** Medical Officer DTOP, OAP, OND, CDER, FDA
FDA Statistical Presentation	**Yunfan Deng, PhD** Statistical Reviewer Division of Biometrics IV (DBIV) Office of Biostatistics (OB) Office of Translational Sciences (OTS) CDER, FDA

11:00 a.m. Clarifying Questions

11:30 a.m. **LUNCH**

12:30 p.m. **OPEN PUBLIC HEARING**

1:30 p.m. Questions to the Committee/Committee Discussion

2:30 p.m. **BREAK**

2:45 p.m. Questions to the Committee/Committee Discussion (cont.)

4:00 p.m. **ADJOURNMENT**

Questions to the Committee:

1. **VOTE:** Do the clinical trials support the efficacy of netarsudil ophthalmic solution for reducing elevated intraocular pressure in patients with open-angle glaucoma or ocular hypertension?

    a. If no, what additional trials would you recommend?

    Vote Result: Yes: 10 No: 0 Abstain: 0

    Committee Discussion: *The committee agreed unanimously that the clinical trials support the efficacy of netarsudil ophthalmic solution for reducing elevated intraocular pressure in patients with open-angle glaucoma or ocular hypertension. The committee members commended the Applicant on a well-designed study, which produced valid clinical results. Even though the committee agreed that netarsudil demonstrated efficacy, a few members expressed that its clinical efficacy suggests that it should only be used as adjunct therapy and in a subpopulation with a baseline intraocular pressure (IOP) of less than 25mmHg. Please see the transcript for details of the committee discussion.*

2. **VOTE:** Does the efficacy of netarsudil ophthalmic solution, demonstrated in the clinical trials, outweigh the safety risks identified for the drug product?

    a. If no, what additional trials would you recommend?

    Vote Result: Yes: 9 No: 1 Abstain: 0

    Committee Discussion*: The majority of the committee agreed that the efficacy of netarsudil ophthalmic solution, demonstrated in the clinical trials, outweigh the safety risks identified for the drug product. One member voted "No" due to the high discontinuation rate shown in the trials and limited data on adverse effects of netarsudil due to a short trial duration. Please see the transcript for details of the committee discussion.*

3. **DISCUSSION:** Please discuss any suggestions you have concerning the proposed draft labeling of the product.

    Committee Discussion: *The committee suggested that the following side effects and warnings be listed in the package insert: pain/stinging at instillation site, corneal verticillata and conjunctival hyperemia. Since corneal verticillata is typically asymptomatic, the committee noted that it is important to list this side effect to avoid clinical error by non-ophthalmologists (misdiagnosis or medication error). It was noted that listing pain upon instillation and conjunctival hyperemia in the label may prevent unwarranted drug discontinuation. The committee also noted that the high discontinuation rate of patients who used the product twice a day instead of once a day should dissuade practitioners from increasing the frequency and/or dose to maximize clinical outcomes. Overall, the committee members expressed that corneal verticillata, redness and pain upon instillation do not impact visual acuity, but their inclusion in the label will provide awareness. Please see the transcript for details of the committee discussion.*

The meeting was adjourned at approximately 1:22 p.m.