http://dx.doi.org/10.5021/ad.2015.27.5.637

Hypertrichosis and Hyperpigmentation in the Periocular Area Associated with Travoprost Treatment

Hae-Eul Lee, Seul-Ki Lim, Myung Im, Chang-Deok Kim, Young-Joon Seo, Jeung-Hoon Lee, Young Lee

Department of Dermatology, Chungnam National University School of Medicine, Daejeon, Korea

Dear Editor:

Travoprost is one of the prostaglandin analogues (PGAs) used as powerful topical ocular hypotensive agents for the treatment of open-angle glaucoma, and has a near absence of systemic adverse effects[1,2]. Among the three commercially available PGAs, bimatoprost and travoprost have recently been shown to be more effective and with fewer adverse effects than latanoprost[3]. Commonly reported lo-

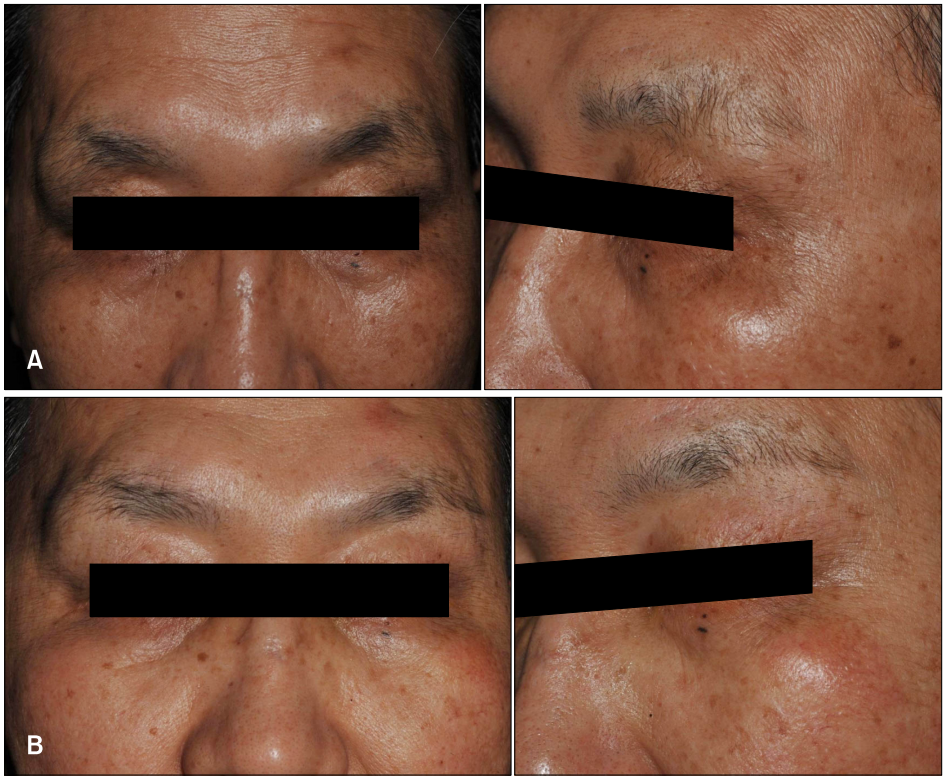

Fig. 1. (A) At the time of the first visit, the primary complaints were hyperpigmentation and hypertrichosis in the periocular area. Also note the increased length of the eyelashes. (B) Six months after discontinuation of travoprost. Note the decreased pigmentation in the periocular area. Also, the length and density of both the hairs of the periocular area and the eyelashes are reduced.

Received October 7, 2014, Revised November 28, 2014, Accepted for publication January 16, 2015

Corresponding author: Young Lee, Department of Dermatology, Chungnam National University Hospital, 282 Munhwa-ro, Jung-gu, Daejeon 35015, Korea. Tel: 82-42-280-7706, Fax: 82-42-280-8459, E-mail: resina20@cnu.ac.kr

cal adverse effects include ocular hyperemia, iris pigmentation, eyelash growth, and periocular pigmentation[1]. Because travoprost is the latest introduced topical agent, less is known about its adverse effects and tolerability. Herein, we report the case of a patient who developed noticeable hypertrichosis in the periocular area, which is an unexpected adverse effect, in addition to eyelash growth and periocular hyperpigmentation.

A 53-year-old Korean man presented with recently recognized hypertrichosis and hyperpigmentation in the periocular area. He had a history of bilateral primary open-angle glaucoma for 7 years and has been treated with a regimen including topical 0.005% latanoprost (Xalatan; Pfizer Inc., New York, NY, USA). About 4 months before the visit, the topical agent was changed to another PGA, 0.004% travoprost (Travatan; Alcon Inc., Fort Worth, TX, USA). Within 3 months of switching the medication to travoprost, the patient noticed hyperpigmentation, hair growth around both eyes, and trichomegaly of the eyelashes (Fig. 1A). The histopathologic findings showed hyperpigmentation on the basal layer of the epidermis. Travoprost, suspected as the most causative drug, was ceased, and it was recommended to resume medication with latanoprost. Six months later, these adverse events showed gradual improvement, indicating that they are reversible (Fig. 1B).

Increase in length of the eyelashes and periocular skin pigmentation have been commonly reported in patients with open-angle glaucoma treated with PGAs[1,2]. Less comparative studies exist on the tolerability and incidence of local adverse effects of travoprost. However, as travoprost and latanoprost are both ester prodrugs of prostaglandin F2-α, the adverse effects might develop through similar mechanisms. Periocular hyperpigmentation is thought to occur because of increased melanogenesis and melanocyte proliferation induced by PGAs, or contact dermatitis-like reaction might play some contributory role[1]. Hypertrichosis of the eyelashes is considered to be associated with the role of PGA of inducing anagen in follicles normally in telogen, in addition to inducing hypertrophic changes in the follicles. Furthermore, a prolonged anagen phase of the hair cycle is likely to increase the length of the eyelashes. Although PGA-induced hypertrichosis primarily involves the eyelashes, it has also been reported to affect the adjacent adnexal hair[4,5]. Ortiz-Perez and Olver[5] reported hypertrichosis of both upper cheeks 3 months after using travoprost, and suggested the possibility of missing the exact site for drug application because of the patient's old age.

In our case, the patient had motor impairment that might have led to the application of the drug outside of the eye. As a result, hypertrichosis and hyperpigmentation in the periocular area, and eyelash growth were observed. However, because travoprost and latanoprost act with similar mechanisms, the finding that adverse effects occurred only with travoprost in our case is somewhat questionable. This might be explained by the evidence showing that the free acids of travoprost are 10 times more potent in activating the prostaglandin F receptor than latanoprost free acid[1]. Thus, this activation of travoprost might have a greater influence on hair growth and melanogenesis than latanoprost. Despite the great efficacy of travoprost, these local adverse effects can cause frustrating discomfort to patients, thus affecting their treatment compliance. In conclusion, physicians should be aware of all possible adverse effects of the drug, and patients should be reassured about the reversibility of these adverse effects.

ACKNOWLEDGMENT

This work was supported by the research fund of Chungnam National University.

REFERENCES

1. Lee AJ, McCluskey P. Clinical utility and differential effects of prostaglandin analogs in the management of raised intraocular pressure and ocular hypertension. Clin Ophthalmol 2010;4:741-764.
2. Strober BE, Potash S, Grossman ME. Eyelash hypertrichosis in a patient treated with topical latanoprost. Cutis 2001; 67:109-110.
3. Kammer JA, Katzman B, Ackerman SL, Hollander DA. Efficacy and tolerability of bimatoprost versus travoprost in patients previously on latanoprost: a 3-month, randomised, masked-evaluator, multicentre study. Br J Ophthalmol 2010; 94:74-79.
4. Johnstone MA, Albert DM. Prostaglandin-induced hair growth. Surv Ophthalmol 2002;47 Suppl 1:S185-S202.
5. Ortiz-Perez S, Olver JM. Hypertrichosis of the upper cheek area associated with travoprost treatment of glaucoma. Ophthal Plast Reconstr Surg 2010;26:376-377.