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Bimatoprost and Herpetic Keratitis- A Rare Association

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Abstract: *A 60-year-old man presented with features of bilateral herpes simplex virus (HSV) keratitis. Patient has past H/O primary open angle glaucoma in both eyes and was on 0.03% bimatoprost eye drop once a day for last 1 year. Patient has no H/O of any systemic illness or similar past history. Patient was shifted to Brimonidine (0.2%) and Timolol (0.5%) combination eye drop for IOP control and started on Acyclovir 3% eye ointment and Homatropine eye drop both eyes. The patient recovered in 10 days. Since 1 year he has no recurrence of keratitis and his IOP is controlled with current medications.*

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I. Introduction

Bimatoprost is a synthetic ocular intra-ocular pressure lowering agent structurally and pharmacologically similar to prostaglandin-F2-a1-ethanolamide, known as prostamide-F2- analog.[1] Very few case report has so far been published in the literature on the possible association between the use of this agent and the recurrence of herpes simplex virus (HSV) keratitis. Here we are reporting a case of bilateral herpes simplex keratitis following the use of 0.03% Bimatoprost ophthalmic solution.

II. Case Report

A 60 years old man presented with complaints of pain, photophobia, redness and watering in both eye for last 1 week. Patient has past H/O primary open angle glaucoma in both eyes and was on 0.03% bimatoprost eye drop once a day for last 1 year. Patient has no H/O of any systemic illness or similar past history. On examination, his best corrected visual acuity in the right eye was 6/60 and in left eye was 6/36. Intraocular pressure (IOP) in both the eyes was 14 mmHg. Both the eyelids had mild swelling with severe blepharospasm and lacrimation. The cornea in the right eye showed dendritiform epithelial keratitis with terminal bulb(Figure 1) and similar but shorter pattern in the left eye (Figure 2) that stained on fluorescin staining. Corneal sensation was diminished in both eyes. The anterior chamber appeared quiet and there was an immature cataract in both eyes. Fundus examination showed a cup-disk ratio of 0.9 in both eyes.

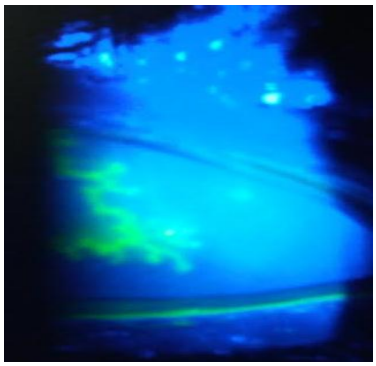

Figure 1

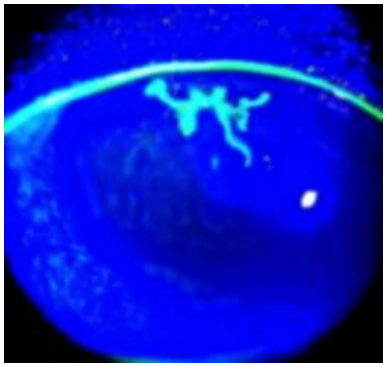

Figure 2

Bimatoprost was withdrawn from both the eyes and he was shifted to Brimonidine (0.2%) and Timolol (0.5%) combination eye drop twice daily in both eyes. Additionally patient was started on Acyclovir 3% eye ointment 5 times and Homatropine eye drop 3 times both eyes. The patient recovered completely in 10 days. Since 1 year he has no recurrence of keratitis and his IOP is controlled with current medications.

III. Discussion

Bimatoprost, was approved for clinical use in the United States in 2001[2]. It decreases intra-ocular pressure by increasing the aqueous outflow through uveo-scleral pathway. The IOP lowering of bimatoprost (30.4% lowering with once-daily dosing) is greater than that of timolol (26.2% lowering with twice-daily dosing)[3]. Bimatoprost has been compared with latanoprost and showed a similar IOP-lowering effect. In a community-based "switch study" involving 1283 patients who were changed from latanoprost to bimatoprost treatment, there was a mean IOP reduction of 3.4 mm Hg after 2 months of bimatoprost treatment[4].

Antiglaucoma prostaglandin analogues (bimatoprost) due to their ability to induce the release of endogenous prostaglandins in the iris and the ciliary muscles may induce reactivation of HSV keratitis[5]. It is known that prostaglandin have effect on multiplication of herpes virus. Harbour, Blyth and Hill have observed Prostanglandins enhance spread of herpes simplex virus in cell cultures.[6]. In one study by Wand and associates[7], recurrence of herpetic keratitis was reported in three patients using topical latanoprost. In one patient with latanoprost-associated herpes simplex keratitis cleared with the discontinuation of latanoprost and start of antiviral therapy; reinstitution of latanoprost with prophylactic antiviral medication kept the cornea clear, but as soon as the antiviral suppression was discontinued, herpes simplex keratitis reappeared. Kroll and Schuman had previously reported a case of HSV keratitis reactivation 1 month after starting the therapy in a patient 10 years after the first episode of the HSV keratitis.[8]

IV. Conclusion

Topical prostaglandin analogue is a known risk factor for herpetic eye diseases. So before prescribing prostaglandin analogue one should ask for previous history of herpetic eye disease and counsel patients regarding rare chance of herpetic eye disease after starting of medications.

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