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Delayed onset brimonidine induced dermatoconjunctivitis

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Abstract

Brimonidine - a known anti-glaucoma drug is notorious to cause adverse reactions out of which ocular allergy is very common. Our case was a known case of steroid-induced glaucoma and was instilling brimonidine eye drops in both eyes for the past 3 years. She presented to us as a case of severe periorbital dermatoconjunctivitis, owing to which a possibility of brimonidine allergy was kept. Brimonidine drops were stopped for two weeks and alternate antiglaucoma drugs were started. After 2 weeks her symptoms resolved. This case highlights the importance of brimonidine induced dermatoconjunctivitis as a differential diagnosis when a patient with ocular allergy on anti-glaucoma medications presents.

Keywords: Brimonidine, Dermatoconjunctivitis, Steroid Induced Glaucoma

Introduction

Brimonidine tartrate is a highly selective alpha 2 adrenoreceptor agonist. It is increasingly being used as a first-line drug for primary open-angle glaucoma [1,2]. Nonetheless, adverse reactions can occur with the topical use of brimonidine. The main allergic reactions to brimonidine consist of allergic contact dermatoconjunctivitis or follicular conjunctivitis with estimated rates up to 25% and rarely granulomatous uveitis [3,4]. The resultant discomfort leads to a stoppage of drug use by the patient. This delayed hypersensitivity reaction due to brimonidine can occur within the first 9 months but may be delayed up to 15 months after treatment is started [5]. We report a unique case of brimonidine allergy with a delayed onset after 2.5 years of use.

Case Report

A 25-year-old female presented with bilateral severe itching in the periorbital region and watering for the last 5-6 months. She was diagnosed with steroid-induced glaucoma 3 years back following inadvertent steroid use for vernal keratoconjunctivitis (VKC). She was on a combination of brimonidine 0.2% and timolol 0.5% since then. There was a history of use of some over the counter topical agents for these complaints, but with no symptomatic relief.

Her best-corrected visual acuity (BCVA) was 20/20 OD (Right eye) and 20/400 OS (left eye). Intraocular pressure (IOP) of OD was 16 mm of Hg and in OS was 17 mm of Hg. Her pupillary reactions were normal in OD and RAPD was present in OS. Slit-lamp examination revealed periorbital dermatitis and follicles in the lower palpebral conjunctiva of both eyes (Fig 1 -

a,b). On dilated fundus examination, OD cup-disc ratio was 0.5 with healthy NRR while OS showed glaucomatous optic disc with a cup-disc ratio of 0.8 and inferior notching.

A provisional diagnosis of contact dermatitis with viral conjunctivitis was made after the dermatologist opinion. Considering the long-term use of brimonidine with no side effects, the initial diagnosis of brimonidine induced allergic dermatitis was not considered. However, the patient's condition did not improve by starting topical steroid ointment alone. One week later, the diagnosis was revisited, brimonidine drops were stopped and the patient was shifted to alternate anti-glaucoma medications. Over the next 15 days, the allergic reaction completely subsided thus confirming our diagnosis of late-onset brimonidine induced dermatoconjunctivitis. (Fig 2 - c,d)

Discussion

The average interval was 6 to 9 months from initiation of brimonidine to the onset of allergic follicular conjunctivitis, however, the interval varied widely among presentations, ranging from 14 days to 15 months. [6,7]. Our patient had a much-delayed presentation of ocular allergy after the use of brimonidine for the last 3 years. Possibly this is because the studies were followed up for 12 months and hence delayed hypersensitivity reaction afterwards was not reported. Thus, by increasing the follow-up duration we may detect more cases developing an allergic reaction to brimonidine.

This ocular allergy can sometimes be confused with viral conjunctivitis by general practitioners as was our case who was misdiagnosed and was taking over the counter drugs for 5-6 months. Distinguishing these two entities is important for the proper management of the patient. [8] A striking difference is that the patients with an allergic reaction do not have corneal involvement as commonly seen with viral disease. Hence an ophthalmologist should be suspicious when a patient with glaucoma on brimonidine presents with follicular conjunctivitis with no signs of corneal involvement.

Conclusion

A delayed hypersensitivity reaction due to brimonidine tartrate eye drops can mimic viral follicular conjunctivitis. Hence, it must be recognised for better management of the patient as such, as it can occur years after brimonidine is initiated.

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Legend Figure

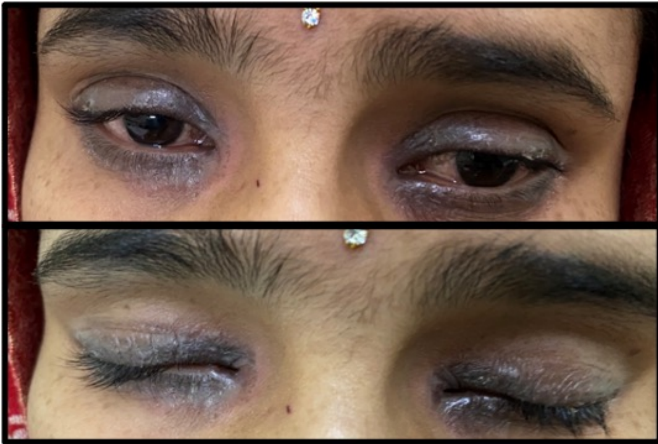

Figure 1: shows periorbital dermatitis with well-defined scaly plaques involving upper and lower lids

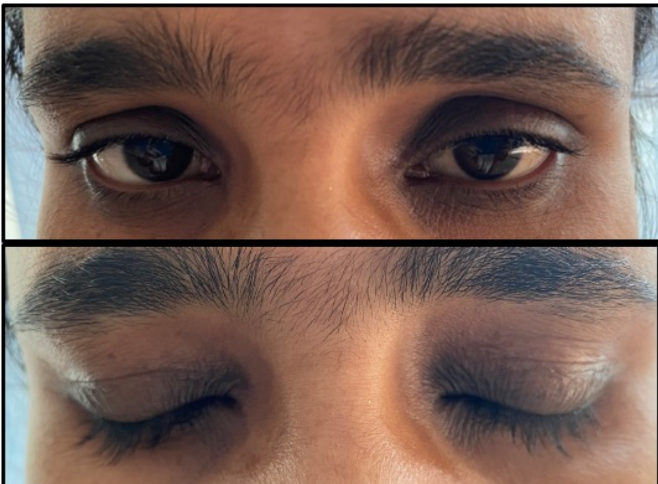

Figure 2: shows resolution of periorbital dermatitis post 2 weeks stoppage of brimonidine eye drops in the same patient

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