

Case Report: A Patient with Eye Pain associated with Headache due to Acute Allergic Conjunctivitis

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ABSTRACT

Allergic conjunctivitis is a prevalent eye condition especially in our region. Ocular allergy can greatly impact the quality of life. Therefore, we present a case of acute allergic conjunctivitis which were aggravated by glaucoma and dry eye syndrome. Multiple examinations were conducted such as a slit lamp OCT, topography examination with investigations to reach a diagnosis. Diamox and Cosopt and Ganforte were used as a first-line therapy to treat the increased intraocular pressure (IOP). The long-term topical steroids prescribed by the general practitioner was stopped. After stopping the topical steroids, notable and drastic changes were observed with the patient. The IOP which was initially high decreased within a week and the symptoms of headache and pain ceased.

INTRODUCTION

The number of factors contributing to ocular allergy can come from pollution, pets and climate¹⁻³. This allergens in the environment can cause inflammatory reaction on the outermost layers of the eye such as the eyelid, the conjunctiva and the cornea that can exacerbate the symptoms⁴. One of such ocular allergies is Allergic conjunctivitis in which the conjunctival layer, the outer most layer of the eye is inflamed. In some cases this may lead to devastating vision impairment if not treated promptly.

Patients predominantly complain about itching, irritation and redness of the eyes which may eventually affect the quality of daily living⁵. The symptoms can be provoked by exposure to dry and windy climates. The common complications are dry eyes, inflammation and corneal scars. If the condition was left untreated, it may result in loss of vision⁶.

First-line management consist of saline solution to dilute and remove the allergens. Topical antihistamines, nonsteroidal anti-inflammatory drugs (NSAIDs), and steroids are traditionally used to treat ocular allergies. The long- term use of topical steroids is associated with cataracts and the gradual increase in intraocular pressure resulted in glaucoma⁷.

In this case report, it was observed that the long-term use of topical steroids to treat the allergic conjunctivitis led to the development of increased intraocular pressure and severe dry eyes, which was managed promptly and appropriately to prevent damage to the retinal nerve fibre layer.

CASE REPORT

A 13-year-old boy presented to our department for an eye examination. He complained of mild ocular pain from the right eye associated with headache. He had a past medical history of red-eyes and was treated in another facility with topical Tobramycin 0.3%-Dexamethasone 0.5% ointment and fluorometholone for allergic conjunctivitis. There was no past medical history of atopic conditions.

The slit lamp examination showed a mild form of allergic papillary conjunctivitis and disc cupping in the optic nerve of the right eye.

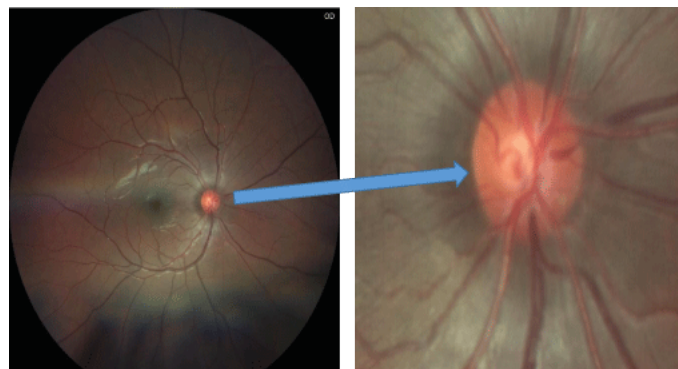


Figure 1: Fundus Photo taken pre-treatment of allergic conjunctivitis

Vision tests were also recorded for both eyes and the vision test results

	Right eye	Left eye
<i>Sphere</i> :	+5.25	+6.00
<i>Cylinder</i> :	-1.50	-1.25
<i>Axis</i> :	170	15
<i>VA</i> :	6/6	6/6
<i>Near VA</i> :	N6	N6

A tonometry test using an I Care showed the IOP to be 46 for the right eye and 18 mm Hg for the left eye. Optical coherence tomography (OCT) showed very mild cupping on the right eye and an anterior chamber showed mild shallowing (Figure 1).

This patient was a steroid responder which was causing increased IOP and led to damage to the retinal nerve fiber layer. The aggravating medications were stopped, and the patient was placed on oral acetazolamide, dorzolamide -timolol and bimatoprost-timolol eye drops for 1 week. In the follow-up visit after a week, there was a drastic improvement in the patient's symptoms and examination revealed decreased IOP. The OCT showed reversal of the right optic nerve cupping (Figure 2).

The IOP was reduced to 15mm Hg with Ganforte and Cosopt eye drops however on slit lamp exam, there was mild anterior chamber reaction

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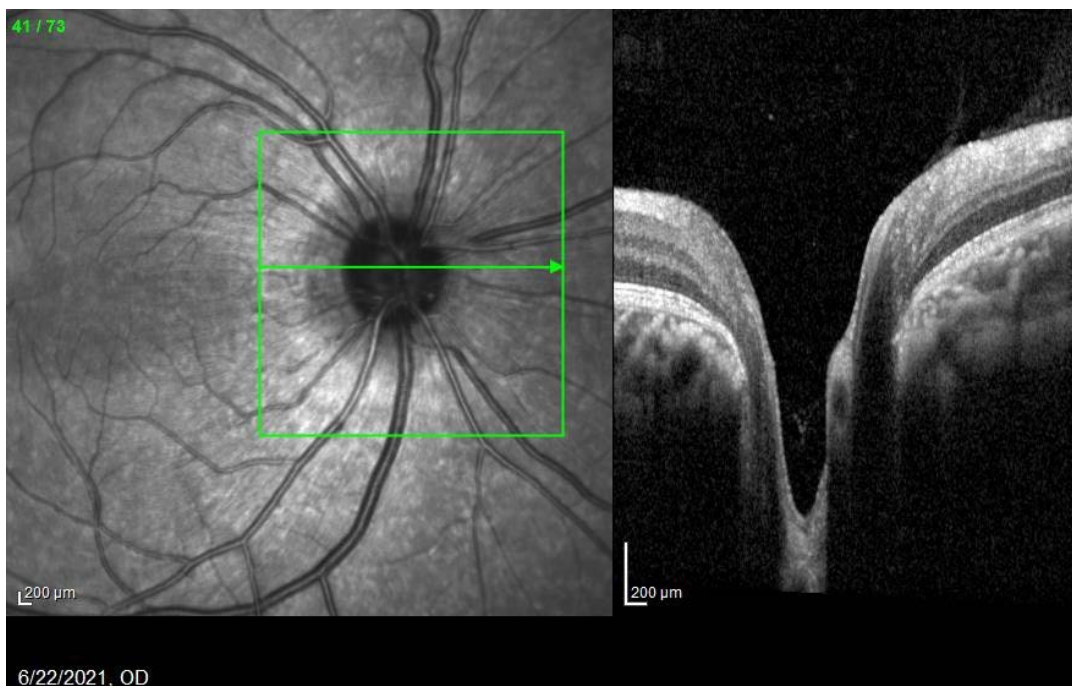


Figure 2: Primary result obtained from pre-treatment of allergic conjunctivitis

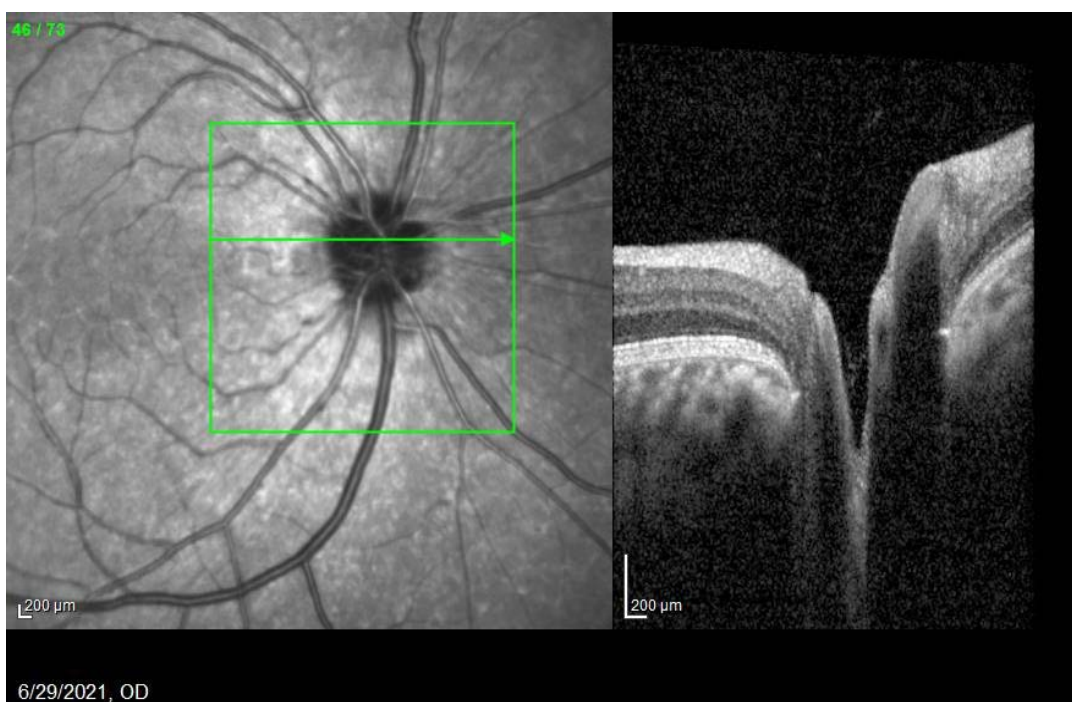


Figure 3: Secondary result obtained from post-treatment of allergic conjunctivitis

of +1 to +2 cells and as a result steroid eye drops were used to treat the iritis due to the sudden withdrawal of steroids (Figure 3).

DISCUSSION

This case introduces the consideration of Glaucomatous changes as a cause of treatment in patients with allergic conjunctivitis. There are many ways to treat and manage allergic conjunctivitis, the very first and easy method is to eliminate the exposure to the allergen that are usually present in air by using the air filters and regular cleaning of linens may be at utmost help to reduce the allergens at home and followed by cold compress to relieve itching. This treatment options varies with

the severity of allergic conjunctivitis. For mild allergic conjunctivitis, lubricating eye drops 4 to 5 times a day will help in dilution of tears and help drain the allergens present in the tears. For moderate allergic conjunctivitis topical eye drops such as antihistamine and mast cells stabilizers are used to stop the allergic symptoms.

For severe form of allergic conjunctivitis, mild steroids in combination the antihistamine can be helpful in the treatment of allergic conjunctivitis, but the steroids have to be tapered and monitored for any side effects such as increased IOP. Other eye drops such as nonsteroidal anti-inflammatory drugs (NSAID's) shows a significant

improvement in the symptoms and the inflammation. Studies are being done on novel ways to treat and manage allergic conjunctivitis. Off label use of Cyclosporine for the treatment of allergic conjunctivitis shown to be effective in patients with steroid dependent allergic conjunctivitis⁸. Another study showed that the use of Tacrolimus 0.03% dermatological ointment showed to improve the signs and symptoms of allergic conjunctivitis when applied on the conjunctival sac⁹. There is still a need of a treatment option that doesn't have any side effects or secondary effects.

Another option to consider when treating patients with allergic conjunctivitis is interprofessional collaboration which can effectively improve the patient's condition. The eye care practitioners are able to examine and treat the ocular surface but when the symptoms reach beyond the ocular eye a consultation with or referring the patient to primary care provider or allergist may be helpful. Providing patients with proper resources and limiting the use of over-the-counter medication can play a major role in the management of allergic conjunctivitis.

CONCLUSION

In conclusion we presented a case of allergic conjunctivitis in a 13-year-old patient. He was initially treated with topical steroids for a long period of time which resulted in increased IOP and optic nerve cupping. But with prompt and appropriate treatment, there was reversal of the optic nerve cupping and improvement in the patient's symptoms. A thorough follow up is necessary when treating patients with topical steroids to avoid the side effects which in turn helps in avoiding the irreversible vision loss.

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Competing Interest: None

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REFERENCES

1. Dupuis P, Prokopich CL, Hynes A, et al. A contemporary look at allergic conjunctivitis. *Allergy Asthma Clin Immunol* 2020;16(1):1-18.
2. Villegas BV, Benitez-del-Castillo JM. Current Knowledge in Allergic Conjunctivitis. *Turk J Ophthalmol* 2021;51(1):45-54.
3. La Rosa M, Lionetti E, Reibaldi M, et al. Allergic conjunctivitis: a comprehensive review of the literature *Ital J Pediatr* 2013;39(1):1-8.
4. Leonardi A, Silva D, Perez Formigo D, et al. Management of ocular allergy. *Allergy* 2019;74(9):1611-30.
5. Ackerman S, Smith LM, Gomes PJ. Ocular itch associated with allergic conjunctivitis: latest evidence and clinical management. *Ther Adv Chronic Dis* 2016;7(1):52-67.
6. Liu YC, Lin MTY, Ng AHC, et al. Nanotechnology for the treatment of allergic conjunctival diseases. *Pharmaceuticals* 2020;13(11):351.
7. Kimchi N, Bielory L. The allergic eye: recommendations about pharmacotherapy and recent therapeutic agents. *Curr Opin Allergy Clin Immunol* 2020;20(4):414-20.
8. Wan KH, Chen LJ, Rong SS, et al. Topical cyclosporine in the treatment of allergic conjunctivitis: a meta-analysis. *Ophthalmology* 2013;120(11):2197-203.
9. Attas-Fox L, Barkana Y, Iskhakov V, et al. Topical tacrolimus 0.03% ointment for intractable allergic conjunctivitis: an open-label pilot study. *Curr Eye Res* 2008;33(7):545-9.