



International Journal of Medical Research & Health Sciences

www.ijmrhs.com

Volume 4 Issue 1

Codon: IJMRHS

Copyright ©2014

ISSN: 2319-5886

Received: 9th Sep 2014Revised: 20th Oct 2014Accepted: 1st Dec 2014

Case report

BILATERAL STEROID INDUCED GLAUCOMA IN VERNAL KERATOCONJUNCTIVITIS

Bangal Surekha V¹, *Bankar Mahima S², Bhandari Akshay J³, Kalkote Prasad R²

¹Professor, ²Post Graduate Student, ³Assistant Professor, Department of Ophthalmology, Rural Medical College, Institute of Medical Sciences, Loni, Rahata, Ahmednagar, Maharashtra, India

*Corresponding author email: mahi.dreamz@gmail.com

ABSTRACT

VKC is a bilateral recurrent allergic interstitial conjunctival inflammation with a periodic seasonal incidence and of self limiting nature, mainly affecting the younger population. Patients of VKC on steroid therapy are at higher risk of developing steroid induced glaucoma. Raised intraocular pressure due to steroids typically occurs within few weeks of starting steroid therapy and comes back to normal on immediate stoppage of steroids. A case of steroid induced glaucoma in a 30 years old female with vernal keratoconjunctivitis. She was on topical steroids for 3-4 years. She was in compliant with the instructions to stop steroids. She eventually developed steroid induced glaucoma and glaucomatous optic neuropathy with tunnel vision.

Keywords: Vernal keratoconjunctivitis, Steroids, Secondary glaucoma

INTRODUCTION

Vernal keratoconjunctivitis (VKC) is a bilateral recurrent allergic interstitial conjunctival inflammation having a periodic seasonal incidence and of self limiting nature, mainly seen in young population. It is type 1 IgE mediated hypersensitivity reaction.

It is characterized by redness of eyes, itching sensation, ropy discharge and presence of conjunctival papillae. Incidence of glaucoma in VKC patients receiving corticosteroid therapy is 2-7%¹. Sometimes these patients develop complications in the form of keratitis, keratoconus, refractive errors, steroid induced glaucoma, rarely chronic anterior uveitis^{2,3,4}.

Topical steroids and antihistamines are the mainstay of treatment of vernal keratoconjunctivitis⁵. These medications are required to be given for long duration considering the chronic nature of the disease.

Patients of VKC on steroid therapy are at higher risk of developing steroid induced glaucoma. Raised intraocular pressure due to steroids typically occurs

within few weeks of starting steroid therapy, which comes back to normal on immediate stoppage of steroids⁶.

CASE REPORT

A 30 years old female presented with recent onset headache. She gave a history of itching, redness, photophobia in both eyes since 6 years. Symptoms used to get aggravated in early summer and to continue throughout the season. Self medication in the form of steroid eye drops was tried by the patient since last 3-4 years.

On presentation, Snellen visual acuity was 6/9 in both eyes. Anterior segment examination showed mild lid oedema, ropy discharge and conjunctival congestion with papillary hypertrophy (cobblestone appearance). Bulbar conjunctiva and cornea were normal. IOP recorded by Goldmann applanation tonometer was raised up to 34 mm of Hg and 31 mm of Hg in right and left eye respectively.

Ophthalmoscopic examination of both eyes showed

pale optic disc with well defined margins, thin neuroretinal rim, nasal shifting of blood vessels with bayoneting sign. The cup disc ratio in the right eye was 0.8 and in the left eye was 0.6. Her visual field examination on standard automated Humphrey perimeter showed an extensive visual field loss, impinging on central vision.

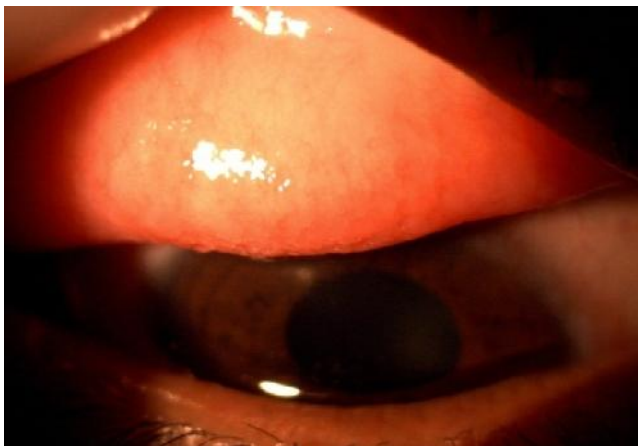


Fig 1: Cobblestone appearance of papillary hypertrophy

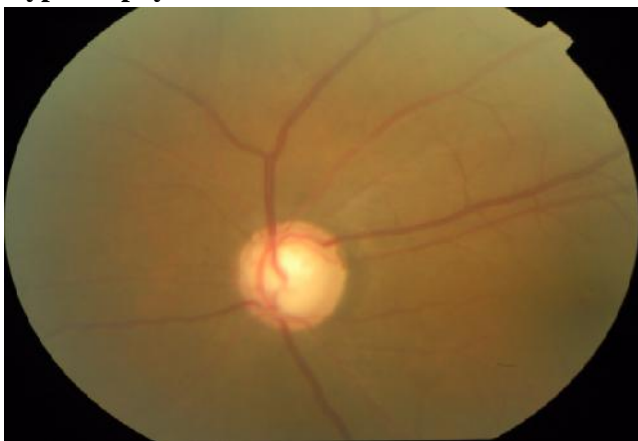


Fig 2: Glaucomatous disc in Left eye

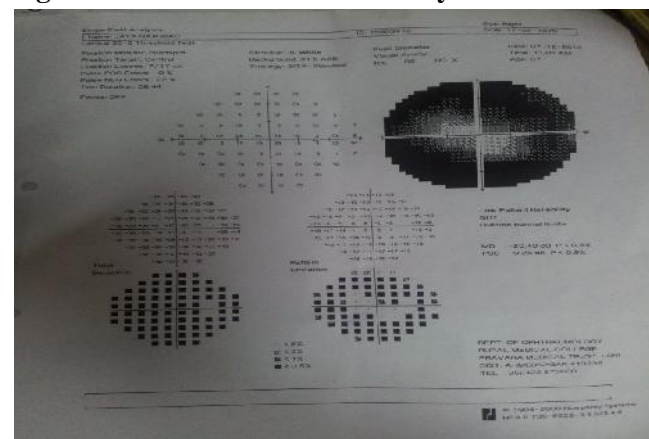


Fig 3: Visual field defects on perimetry

To suppress the symptoms of VKC and to control the IOP, patient was started on topical cyclosporine eye drop tds, loteprednol eye drop qid, olopatadin and

timolol eye drop bd. Patient followed up after 20 days. Her IOP recorded in both eyes were 24 mm of Hg and 21 mm of Hg.

Although she maintained low IOP and good visual acuity of 6/9 in both eyes, she had developed severe visual field defects.

DISCUSSION

Vernal Keratoconjunctivitis is a bilateral chronic allergic inflammation of the conjunctiva, which mostly affects young adults in tropical climate. It is characterized by marked burning and itching sensation which is usually not tolerable and aggravated during the summer. Type I and IV hypersensitivity contribute to symptomatology and pathogenesis of VKC. Stimulation of T cells releases cytokines which activates eosinophils and mast cells, responsible for its pathogenesis⁶. These patients may be at high risk of permanent visual impairment due to complications like refractive errors, keratoconus, corneal scarring, corticosteroid induced glaucoma and cataract formation. Up to 85% of patients with VKC require corticosteroid therapy at sometime during their course of illness⁶. As a result of this regular monitoring of IOP should be done of these patients. Corticosteroid induced IOP elevation is an iatrogenic condition caused by decreased trabecular outflow⁶. Changes in trabecular mesh-work cells have been identified, including increased deposition of several components of the extracellular matrix and rearrangement of the trabecular mesh-work cytoskeleton with cross linking of actin of microfilaments⁷. Generally the corticosteroid induced ocular hypertension is reversible on discontinuation of steroid therapy but if unrecognized, this may lead to secondary open angle glaucoma and ultimately glaucomatous optic neuropathy which is irreversible. In our case the patient was from a rural area, where health facilities are not easily accessible. Lack of health awareness, illiteracy about the disease condition, side effects of drugs and regular and frequent follow up leads to irreversible glaucomatous damaged to optic disc leading to visual field defects in the patient.

CONCLUSION

Bilateral steroid induced glaucoma is an important complication seen in patients of VKC due to prolonged use of topical steroids. It can be prevented by proper

counseling for regular follow up and monitoring the IOP along with visual field testing.

Conflict of Interest: Nil

REFERENCES

1. Leonardi A, Busca F, Motterle L et al. Case series of 406 vernal keratoconjunctivitis patients: a demographic and epidemiological study. *Acta Ophthalmol Scand* 2006; 84(3): 406-10.
2. M Daud Khan, NiamatullahKundi, Nasir Saeed, ArifaGulab, andAnoisa F Nazeer. Incidence of keratoconus in spring catarrh. www.ncbi.nlm.nih.gov/.../
3. Andrea Taddiol, Rolando Cimaz, Roberto Caputo, Cinzia de Libero, Laura Di Grande, Gabriele Simonini, et al., Childhood chronic anterior uveitis associated with vernal keratoconjunctivitis. *PediatrRheumatol Online J* 2011; 9: 34.
4. Marcus Ang, Seng-EiTi, Raymond Loh, SonalFarzavandi, Rongli Zhang, Donald Tan, et al Steroid induced ocular hypertension in Asian children with severe vernal catarrh. *Clinophthalmol* 2012;6:1253-8.
5. SaadiaFrooq, Aslam Malik. Evaluation and Management of Steroid Induced Glaucoma in Vernal Keratoconjunctivitis Patients. *Pak J Ophthalmol* 2007;23: 1
6. Mithal S, Soodv AK, Manini AK, Management of vernal keratoconjunctivitis with steroid induced glaucoma-a comparative study. *Indian J Ophthalmol*. 1987; 35(6):298-01.
7. Sihota R, Konkall VL, Dada T, Agarwal HC, Singh R. Prospective long-term evaluation of steroid-induced glaucoma. *Eye (Lond)*.2008; 22(1):26-30