



NEED OF AWARENESS ABOUT OVER THE COUNTER STEROID INTAKE – A CASE SERIES.

Ophthalmology

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ABSTRACT

Steroids are anti-inflammatory drugs widely prescribed by all physicians and are very commonly used to treat ocular as well as systemic conditions. Unmonitored use of steroids is common in situations when it is easily available over-the-counter especially in eye drop formulations, resulting in several side effects. (1) Chronic administrations of steroids in all forms can raise intraocular pressure (IOP) resulting in optic neuropathy causing steroid-induced glaucoma. (2)

We have reported four cases of steroid induced glaucoma that presented to the Ophthalmology OPD. The purpose is to familiarize and create awareness in all clinicians especially ophthalmologists and practitioners of alternate medicine prescribing steroids about the potential dangers of administering steroids without monitoring the eye and the dangers of irreversible blindness in some instances of habitual self-prescription by patients.

KEYWORDS

Steroid, Glaucoma, blindness

INTRODUCTION

Steroids are one of the most commonly prescribed drugs, use in the treatment of various autoimmune and inflammatory conditions. (3) Unmonitored use of steroids especially in eye drop formulations is common in situations when it is easily available over-the-counter and can cause various complications the most important being steroid-induced glaucoma and cataracts. (1) Chronic administrations of steroids in any form with raised IOP can cause optic neuropathy resulting in steroid-induced glaucoma. (2)

We have reported four cases of steroid induced glaucoma that presented to the Ophthalmology OPD. The purpose is to familiarize and create awareness in all clinicians especially ophthalmologists about the potential dangers of administering steroids without monitoring the eye and the dangers of irreversible blindness in some instances of habitual self-prescription by patients.

Case 1:

A 20 year old female presented with the chief complaint of pain in the both eyes since two weeks, intermittent in nature associated with watering. Patient didn't have any history of systemic illness. Patient was on oral steroids since two months. On examination, the distant vision of both eyes was 6/6 on Snellen's distant vision chart; the near vision was N.6 on Snellen's near vision chart. The colour vision in both eyes was 17/17 plates using Ishihara's chart and the Amsler's grid test was normal in both eyes. The anterior segment examination of both eyes was within normal limits (WNL). On fundus examination of right eye, the C:D ratio was 0.5:1 and of the left eye was 0.7:1 (Figure 1); rest all was within WNL. Intraocular pressures (IOP) were 18 mmHg in the right eye and 20 mmHg in the left eye by using Goldmann's applanation tonometry (GAT). The central corneal thickness was 537 and 527 in both eyes and adjusted IOP was 19 mmHg and 21 mmHg. Repeated tonometry showed raised IOP on the next two visits. Perimetry was done which was WNL. Topical anti-glaucoma drugs were started for the patient and follow up to date shows WNL IOP.

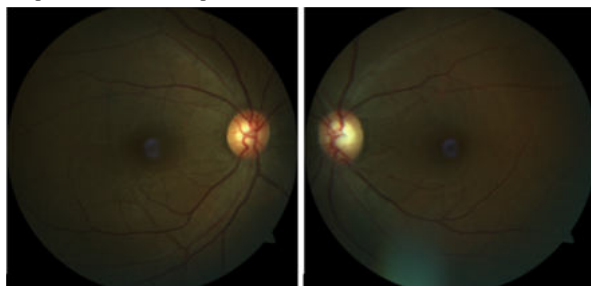


Figure 1: Right Eye Fundus Photo Showing 0.5:1 C:D Ratio; Left

Eye Fundus Photo Showing 0.7:1 C:D Ratio

Case 2:

A 65 year old female came with the chief complaint of generalized headache associated with photophobia since 2 years. Patient also complained of diminution of vision in both eyes for distant and near objects since 4 months, which was gradual, progressive and painful in nature. Patient was a known case of hypertension since 5 years, on medication. On examination, the distant vision of both eyes was hand movements close to face, perception of light were positive and projection of rays was accurate. The anterior segment examination of both eyes senile immature cataract was seen, rest was WNL. On fundus examination of both eyes, the C : D ratio was 0.9:1 (Figure 2). Intraocular pressures were 26 mmHg in the right eye and 24 mmHg in the left eye using GAT. Patient was started on E/D BRIMONIDINE, E/D TIMOLOL and eventually operated for cataract extraction along with trabeculectomy. Her post-operative period was uneventful. Her IOP were noted to be WNL on follow up.

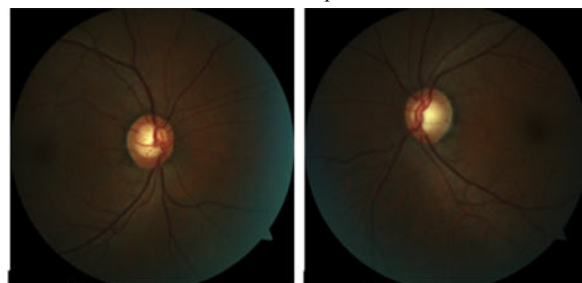


Figure 2: Right Eye Fundus Photo Showing 0.9:1 C:D Ratio; Left Eye Fundus Photo Showing 0.9:1 C:D Ratio.

Case 3:

A 70 year old male came with chief complaint of diminution of near and distant vision since 6 months in both eyes, right eye more than the left eye. It was gradual, progressive and painless in nature. Patient had history of spectacle usage since 1.5 years. Patient underwent cataract surgery for both eyes 1.5 years ago and had been using E/D PREDNISOLONE ACETATE 1% since then. Patient was also a known case of diabetes mellitus since 2 years, on medication. On examination, the distant vision in both eyes was 6/18 on Snellen's chart and near vision was N12 in both eyes. The anterior segment examination of both eyes was WNL. On fundus examination of both eyes, the C : D ratio was 0.6:1; the vessels were tortuous and showed arterio-venous nicking, rest all was WNL. (Figure 3) Intraocular pressures were 22 mmHg in the both eyes using GAT. Perimetry

showed mild glaucomatous visual field defects. Topical anti-glaucoma drugs were started for the patient and follow up to date shows WNL IOP and no further deterioration in the visual fields.

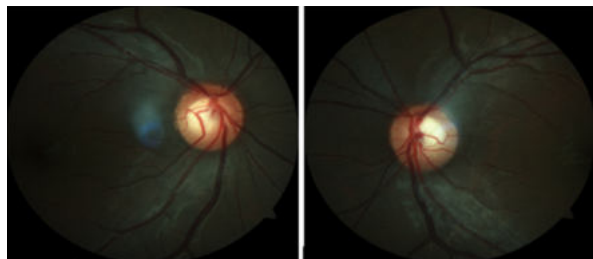


Figure 3: Right Eye Fundus Photo Showing 0.6:1 C:D Ratio; Left Eye Fundus Photo Showing 0.6:1 C:D Ratio

Case 4:

A 40 year old male presented with the chief complaint of diminution of vision in the both eyes since 6 months, it was gradual, progressive and painless in nature. Patient was a known case of diabetes mellitus since 10 years, on medication. Patient was on oral steroids for several months. On examination, the distant vision of both eyes was counting fingers at 2m on Snellen's distant vision chart, not improving on pinhole; the near vision was N.36 on snellen's near vision chart. The colour vision in both eyes was 17/17 plates using Ishihara's chart and the Amsler's grid test was normal in both eyes. The anterior segment examination of both eyes immature cataract was seen, rest was WNL. On fundus examination of both eyes, the C:D ratio was 0.7:1. (Figure 4) Intraocular pressures were 16 mmHg in the both eyes using GAT. Patient was eventually operated for cataract extraction. His post-operative period was uneventful. His IOP were noted to be WNL on follow up.

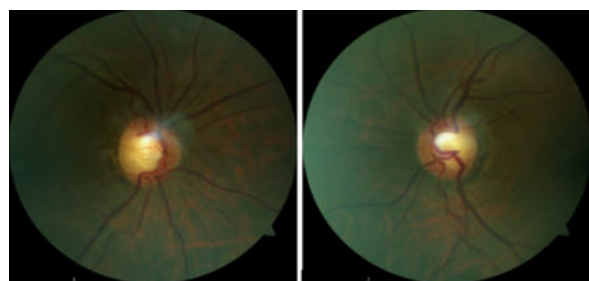


Figure 4: Right Eye Fundus Photo Showing 0.7:1 C:D Ratio; Left Eye Fundus Photo Showing 0.7:1 C:D Ratio

DISCUSSION

Steroids are widely prescribed by all physicians. One of the most dangerous side effects of these drugs is an elevated IOP. (3) Steroid-induced glaucoma is a form of open angle glaucoma. The mechanism for IOP elevation after steroid intake is not quite clear, but it occurs due to reduced aqueous outflow. (1) IOP rise after steroid therapy occurs more frequently with topical administration than systemic administration. (1) The IOP rise may occur with drops or ointment applied directly to the eye or over the skin of the eyelids. In some patients, IOP elevation usually develops within the first few weeks of steroid administration. It can be elevated either within an hour or many years after chronic use. Once steroid is discontinued, IOP usually normalizes within 1 to 4 week, but the damage caused to the optic nerve is irreversible. (2) Patients present with complaints of headache or diminution of vision and on examination, raised IOP, normal and open angles on gonioscopy, optic disc cupping, and visual field defects are found. The intraocular pressure rise is most marked with potent steroids such as dexamethasone and betamethasone which penetrate most effectively into the anterior chamber. (2) Glaucoma may also occur with the use of dermatological preparations containing steroids which are applied to the eyelids for a variety of skin conditions. (5)

CONCLUSION

We believe that the use of steroid preparations on and around the eyes or eyelids should be highly monitored and restricted unless highly recommended. The purpose is to familiarize and create awareness in all clinicians especially ophthalmologists and practitioners of alternate medicine prescribing steroids about the potential dangers of administering steroids without monitoring the eye and the dangers of irreversible blindness in some instances of habitual self-prescription by patients.

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