***Case report***

# OCULAR COMPLICATIONS OF STEROID IN A PATIENT PRESENTING WITH VISION LOSS HAVING DUANE RETRACTION SYNDROME


## ABSTRACT

Corticosteroids are an essential treatment modality for a wide spectrum of disease processes. However, as efficacious as they are therapeutically, they are heavily polluted with side effects. Topical and systemic steroids have proven to be valuable agents in the treatment of many disorders, but their use is not without potential complications. To monitor the possible complications of steroid therapy, routine follow ups are indicated. We report a case of 35 year old male who presented to the ophthalmology OPD with gradual bilateral visual loss since few years. On eliciting detailed history, patient gave history of consuming steroids unmonitored since few years. In this review, we discuss the presentation of corticosteroid-induced cataract in a patient with Duane retraction syndrome who presented initially in ophthalmology out-patient department and was managed by a multi-speciality team to tackle the varied side effects of steroids taken by self-medication.



Keywords : Duane retraction syndrome, steroids, posterior subcapsular cataract.

## INTRODUCTION

Corticosteroid therapy is of great value in many types of diseases as it's effects are numerous and widespread. In addition, corticosteroids endow the organism with the capacity to resist such stressful circumstances as noxius stimuli and environmental changes.[1,2,3]. The dangers of steroids are now widely recognized, and the complications are discussed, particularly cataract. The correlation between the use of systemic steroids and cataract formation was originally described in 1960, when a significant proportion of patients with Rheumatoid Arthritis on long term steroid therapy developed Posterior Subcapsular Cataracts .[4]Particular stress is laid on the need to keep steroid dosage as low as possible, so as to avoid systemic side effects. Before initiation of therapy with systemic steroids, a personal or family history of cataracts, glaucoma, hypertension, diabetes, hyperlipidemia, renal stones, peptic ulceration, and current infection or pregnancy should be ascertained. Screening for cataracts, which occur most commonly as a sequel of continuous systemic steroid use, may be performed by slit-lamp examinations conducted three or four times a year for patients on long-term therapy and twice a year for patients taking intermittent topical ocular or systemic steroids. Glaucoma is more often associated with topical ocular or periocular steroids than with systemic steroids; recommended screening includes a baseline intraocular pressure measurement, then routine pressure measurements taken every few weeks initially, then every few months. We discuss the presentation of corticosteroid-induced cataract in a patient with Duane retraction syndrome who presented initially in ophthalmology out patient and was managed by a multi-specialty team to tackle

the varied side effects of steroids taken by self-medication. Issues of steroid being available as over the counter medication and the lack of governing body authorization and monitoring has also been highlighted.

## CASE REPORT

A 35 year old male, presented with complain of diminution of vision in both eyes for distant and near since 1 ½ years. It was gradual, progressive and painless in nature. Patient had history of spectacle usage since 8 months, uncorrected at present. There was no history of previous ocular trauma or surgery.On detailed questioning, patient also gave history of consuming steroids (Tab Betnesol Forte) since last two years. He had started on these tablets for some skin condition and kept consuming it on his own for two years due to the "wellness" feeling he experienced and the easy availability of steroids over the counter (OTC). On complete ophthalmic evaluation, visual acuity for distance was finger counting at 2m in both eyes and near vision was less than N36. Amsler's grid test and colour vision was normal in both the eyes. Intraocular pressure of was 16 mm/Hg-right eye and 18 mm/Hg – left eye. Anterior segment examination revealed posterior subcapsular cataract in both eyes. Abduction was restricted in the left eye. Retraction of left eyeball and narrowing of the palpebral fissure on attempted abduction and widening of the palpebral fissure on adduction. (Figure 1) Patient was aware of this, but was not bothered much due to his primary gaze being minimally affected. Rest was within normal limits. On detailed fundus examination, both eyes fundus was normal. On general examination skin lesions and back issues were also noted, hence a team of specialists was

involved for his management. On physician consult, he was advised rheumatoid evaluation along with inflammatory markers. Dermatology consult revealed, hypertrichosis, striae on both shoulders, multiple discrete erythematous macules with scaling on trunk, dark discoloration of nails of bilateral fingers were found for which he was started on Tab Levocetrizine at night, Tab Prednisolone 5mg once daily (tapered weekly), Fusidic acid cream for local application. On general examination, buffalo hump and swelling of face (cushinoid features) was noticed.(Figure 2) Laboratory investigations revealed serum cortisol level as 0.8 ug/dl (suggestive of HPA axis suppression), serum creatinine as 0.54 mg/dl, ESR as 68, Chest X-ray and Mantoux PPD test was suggested to screen for tuberculosis, which showed opacities on right upper lobe.(Figure 3) X-ray of lower limb was normal. Rest laboratory investigations were within normal limit.

## DISCUSSION

Topical and systemic steroids have proven to be valuable agents in the treatment of a wide range of disorders, but their use is not without potential complications. The major ocular side effect of systemic steroid therapy is the development of posterior subcapsular cataracts. To prevent the ocular complications of steroid therapy, routine screening is indicated. Ocular rebound inflammation may develop secondary to rapid tapering or abrupt discontinuation of topical ocular steroid use and is best prevented with gradual tapering. Opportunistic infections of the eye include bacterial, viral, and fungal infections and are most often associated with the use of topical ocular steroids. Systemic steroids are not a long term option; they are appropriate only for induction therapy. Corticosteroid tapering usually can be

accomplished by adding an immune-modulatory agent. It is most important that we have an awareness of the complications as well as the benefits of the potent agents, especially because of the ease of availability in our country OTC.

Black et al. found that in seventeen of forty-four patients with rheumatoid arthritis who were on prolonged corticosteroid treatment for the same, developed Posterior subcapsular cataract.(5)

Benjamin S Daniel and David Orchard conducted a retrospective study in Australia to determine the evidence on corticosteroids and their role in ocular diseases. The case reports have highlighted the need to educate health practitioners and patients in the appropriate prescription and application of topical corticosteroids.(6)

Physicians shall consider adverse effects and patient's underlying co-morbidities before prescribing steroids and use steroids judiciously. Stricter norms should be adopted on the availability and prescription of steroids by general practitioners. The legal approach should include the enforcement of the existing legislation related to the control of these drugs, so that they are not sold without proper prescriptions. The primary goal underlying all ethical issues in health care is to see that knowledge gained through research should benefit and not cause harm to the society. This knowledge should be disseminated correctly and used practically to minimize harm.

## REFERENCES

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**LEGENDS**

Figure 1: 9 gaze photo showing abduction restricted in the left eye

Figure 2: Showing buffalo hump and swelling of face (cushinoid features).

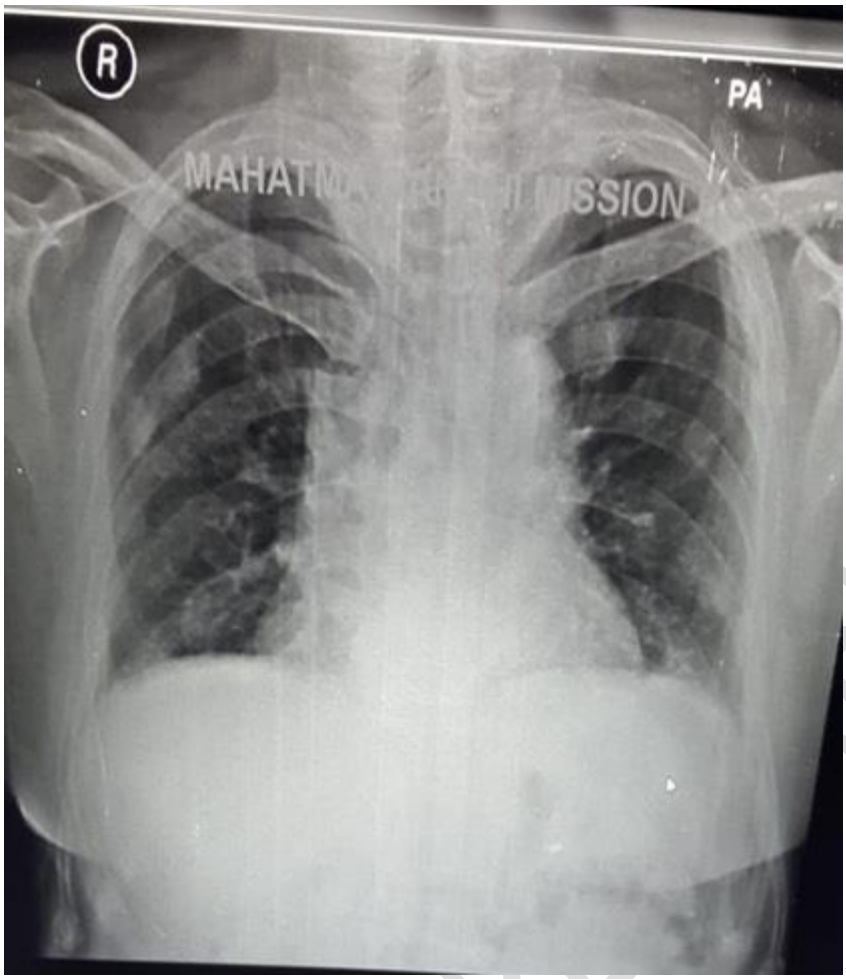

Figure 3: Chest X-ray showing opacities on right upper lobe.