



THE USE OF NASAL STEROID AND ITS POTENTIAL IMPACT ON INTRAOCULAR PRESSURE

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ABSTRACT

Aim - : To evaluate whether short-term nasal steroid therapy is associated with any adverse effects on IOP.

Materials and methods :A prospective study was done in a tertiary care Hospital with 70 patients.

Results : 67.14% (47patients) showed no change in IOP after short term use of inhalational steroids .

Conclusion :Short-term use of nasal steroids appears to be safe regarding IOP levels.

INTRODUCTION –

Nasal steroids are widely prescribed for managing allergic rhinitis and other nasal conditions due to their effectiveness in reducing inflammation and alleviating symptoms. Despite their localized application, there is growing concern about their systemic effects, particularly on intraocular pressure (IOP). Elevated IOP is a key risk factor for glaucoma, a serious eye condition that can lead to vision loss if left untreated. Understanding the potential impact of nasal steroids on IOP is crucial for both patients and healthcare providers to ensure safe and effective management of nasal conditions without compromising eye health.

MATERIALS AND METHODS –

It is a prospective study conducted in a tertiary care hospital.100 patients were taken for this study who were receiving nasal steroid for their allergic rhinitis treatment. Among them 30 patients were excluded according to the exclusion criteria.70 patients were included in the study.

Inclusion criteria :Patients who are using nasal steroid for their allergic rhinitis.

Exclusion criteria:

1. Patient had other ophthalmic disease
2. Patient had any systemic illness except allergic rhinitis
3. Patient were taking any other topical or systemic drug except nasal steroid.
4. Patient has past history of taking corticosteroids.
5. Any pre-existing glaucoma patients.

Before starting nasal steroid a thorough ophthalmic examination including best corrected visual acuity, anterior segment, fundus examination, intraocular pressure by applanation tonometer, angle of anterior chamber by gonioscope were done.

After starting the therapy, we followed up the patient every week for six weeks. The results were registered and were statistically analysed by using the paired student's T test .

All the patients in our study were given an aerosol formulation of tramazoline hydrochloride (120microgm) and dexamethasone (20microgm).

We measured the intraocular pressure at the end of every week for six weeks and we measured the intraocular pressure in every morning at a fixed time to avoid diurnal variation.

RESULTS:

Before starting therapy we measured intraocular pressure in all patients. The IOP range was 11-15 mmHg. We followed up the patients every week for six weeks. Among the 70 patient there was no change in intraocular pressure in forty-seven patients(67.14%). 1mmHg was raised among eight patients (11.42%). Seven(10%) patients showed increase in 2 mmHg. Five (7.14%) patients showed increase in 3 mg and only three patients(4.30%) showed 4mmHg increase in IOP.

Despite increased this IOP in patients IOP were within normal limits.Statistical analysis showed that the differences were not statistically significant ($p>0.1$).

DISCUSSION –

In 1993 Simons et al did not observe cataract in young patients with inhaled steroids ¹.In Gayer et al study ² 3 patients presented with glaucoma after intake of beclomethasone inhalation. In the study of Opatowsky I et al ³ there was increase IOP related to steroid inhalation and IOP returned to normal after withdrawal of steroids.Bui et al ⁴ showed that withdrawal of steroid might lower the IOP in glaucoma patients. Frauufelder FT et al⁵ determined the association of beclamethasone nasal spray and posterior sub capsular cataract. In Christos S et al ⁶ study showed there was no association of increase in IOP with short term nasal steroid therapy which was similar with our study.

Garber E et al ⁷ concluded that only patients receiving high doses inhaled steroid were at increased risk for ocular hypertension or open angle glaucoma . Whereas Bross S. D et al ⁸ observed IOP was within normal limits.

In this study , There was no significantly increase IOP in short term use of steroids. So we can conclude that short term administration of steroids as nasal spray is safe .Side effects of inhalational steroid depends upon long term use. Therefore, further research is required to determine the possible relationship between inhalational steroid and intra ocular pressure.

CONCLUSION:

The study indicates that short-term use of nasal steroids does not result in a significant increase in intraocular pressure (IOP). While short-term use does not generally affect IOP. Continued vigilance is recommended, especially for patients with pre-existing ocular conditions or those at risk for glaucoma.

LIMITATION OF STUDY

Long term complications couldn't be assessed due to lack of follow up.

CONFLICT OF INTEREST: None .

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