Tear Film Abnormalities in Patients with Pseudoexfoliation Syndrome

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INTRODUCTION

- Pseudoexfoliation syndrome is relatively wide spread generalized disease of connective tissue in the elderly population.
- Several studies in PEX patients showed association with polymorphisms in the gene lysyl oxidase like1.
- PEX material gets deposited on conjuctiva, corneal endothelium, pupillary margin, trabecular meshwork, zonules, lens capsule, and predisposes to number of ocular comorbidities.

- Patients of PEX can develop corneal endotheliopathy, sphincter atrophy of the iris, poor mydriasis, iris neovascularization, flaky material on the lens capsule, zonular dialysis and spontaneous dislocation of the lens.
- They are also more predisposed to goblet cell loss and dry eye .
- The present study has assessed the tear function in PEX and also compared the findings in eyes without PEX.

AIM OF THE STUDY

- The Aim of the present study is to understand the tear film abnormalities in patients with pseudoexfoliation syndrome.

Materials and Methods

- Type of study: prospective study.
- Group 1 consists of 25 normal subjects.
- Group 2 consists of 35 PEX syndrome patients.
- Inclusion criteria:
- Patients diagnosed for PEX syndrome in lens or iris.
- Exclusion criteria:
- Subjects with other conditions like PEX glaucoma, diabetes mellitus, ocular surface disorder, previous ocular surgeries and adnexal abnormalities.

- Tear film changes were identified by schirmer's 2 test and tear film break up time (TBUT).

Results

- 20 (57%) of the 35 patients in the study group had unilateral PEX and the rest 15 (43%) had bilateral presentation.
- The mean age of the patients in PEX group and control group was 56 ± 4 years (range 51-65) and 60 ± 5 years (range 52-68) respectively
- Average Schirmer's and TBUT in control group were 18 ± 4 mm and 14 ± 2s respectively whereas in PEX group, the values were 7± 3 mm and 6 ± 2s and the differences were statistically significant($P < 0.05$).

Conclusion

- PEX material causes decrease in tear secretion and instability to tear film leading to dry eye.
- Deposition of pseudoexfoliative material on conjuctiva can lead to damage of globet cells and accessory lacrimal glands which could be cause of decreased tear film secretion and tear film instability.

References

- Jones LT (1973): Anatomy of the tear system. Intern OphthalmolClin 13, No. 1: 3–22
- Kanski JJ (1989): The lacrimal system.In: (Kanski JJ, ed) Clinical Ophthalmology. A s ystematic approach. Oxford, Butterworth Heinemann.
- Parekh P, Green Wr, Stark Wj, AkpekEk. Electron microscopic investigation of the lens capsule and conjunctival tissues in individuals with clinically unilateral pseudoexfoliation syndrome. Ophthalmology 2008;115:614-9.
- RaoVa, Kaliaperumal S. PEX syndrome. Karnataka J Ophthalmol 2004;21:11-8. 20. Kozobolis Vp, Detorakis Et, Tsopakis Gm, Pallikaris Ig. Evaluation of tear secretion and tear lm stability in pseudoexfoliation syndrome.