

The prevalence of Pseudoexfoliation in patients scheduled for cataract surgery



Ophthalmology

KEYWORDS:

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INTRODUCTION-

Pseudoexfoliation (PXF) is a senile condition, more common in females, familial and seems to be genetically inherited disease. A high risk of developing pseudoexfoliation syndrome and pseudoexfoliation glaucoma is confirmed by mutations in LOXL1 gene at locus 15q22, coding for elastic fibre components of the extracellular matrix. A grey-white fibrillary extracellular material composed of a protein core surrounded by glycosaminoglycans is produced by abnormal basement membranes of ageing epithelial cells in the trabeculum, equatorial lens capsule, iris and ciliary body. The material is then deposited on the anterior lens capsule, zonules, ciliary body, iris trabeculum, anterior vitreous face and conjunctiva.

Ultra structural studies performed on eyes during autopsy suggest that pseudoexfoliation syndrome is a systemic disorder. Pseudoexfoliation material has been found in a number of organs, which includes skin, lungs, gall bladder, liver, myocardium, kidney, bladder and meninges.

Pseudoexfoliation is a known risk factor for developing cataracts. Cataract surgery in eyes with pseudoexfoliation has higher incidence of operative complications like posterior capsular rupture, zonular dialysis, vitreous loss and intra ocular bleeding. Post-operatively, these patients are at greater risk of developing immediate elevation of IOP and inflammation. Posterior capsular opacification and intraocular lens decentration are more common in patients with pseudoexfoliation in post-operative period.

MATERIAL AND METHOD-

The Study was conducted in department of ophthalmology at AVBRH Sawangi Wardha attached to JNMC Medical College. All patients visiting OPD were explained about the study and those willingly participating in the study a complete history was taken and complete ocular examination was done. The study was conducted for a period of 2 years from JUNE 2015 to JUNE 2016. The study adhered to the tenets of the declaration of Helsinki and had been approved by an institutional ethical committee of DMIMS. Informed and written consent is obtained from all patients with consent form approved by the institutional ethical committee of college.

Sample size was taken as 1800 cases attending ophthalmology OPD. All patients were included in study after due consideration of all inclusion and exclusion criteria and those not fulfilling the criteria were excluded from the study. It was a prospective, randomized, observational study.

INCLUSION CRITERIA-

1. Patients above 40 yrs of age belonging to either sex diagnosed to have cataract with pseudoexfoliation on the basis of slit lamp examination before and after pupillary dilatation

EXCLUSION CRITERIA-

- Patients less than 40 yrs of age.
- Patients with traumatic cataract.
- Patients with history of exposure to intense infrared lights i.e. glass blowing.
- Patients uncontrolled DM or other severe systemic and cardiovascular diseases and H/O transient ischemic attacks or stroke.

- Patients who had evidence of present or past uveitis and those with evidence of ocular trauma

MATERIALS AND METHOD-

After enrollment of the subject to the study all subjects had undergone a thorough ophthalmic examination including- Visual acuity was taken unaided, pin hole and best corrected visual acuity was done after giving refraction to the patient. Anterior segment examination with slit lamp to see any abnormality. IOP measurement was done by using applanation tonometry reading was noted twice in two different setting and mean of two was taken as our final reading. Gonioscopy was performed. Dilatation of pupil was done by using homatropine 2 % in young patients and phenylephrine 10% in adults for retinoscopy and fundus examination. Retinoscopy was done in all cases to calculate the refractive error. Fundus examined with distant direct ophthalmoscopy, direct ophthalmoscopy, indirect ophthalmoscopy, slit lamp biomicroscopy with help of 90 D Volk lens. B-SCAN done whenever needed. Fundus findings were noted.

RESULTS AND OBSERVATION-

- Maximum number of cases of PSEUDOEXFOLIATION were in 61-65yrs (40%) of age followed by 66-70yrs (34%) of age group
- Prevalence of Pseudoexfoliation was more in females (66%) as compared to males (34%). M:F= 1:1.94
- Association with glaucoma and hearing loss was 26% and 8% respectively
- Operative risk factor was greatest of small pupil(34%) followed by zonular dialysis (13%) and phacodonesis (10%)
- Pseudoexfoliation syndrome was present in 34%
- In present study the prevalence of PXF is 5.5%.

DISCUSSION-

- The reported prevalence rate of PXF syndrome shows extensive variations. . Prevalence rates of as low as 0% in Eskimos [20], and as high as 38% in Navajo Indians [21] were reported
- Framingham Eye Study (1.9%), [27] and Visual Impairment Study (0.98%) [28]. However, the age-specific standardized PXF rates in other population-based studies--one from southern India [29], central Iran [30] and from Crete (Greece) [31, 32]--were high (7.6%, 9.4% and 16.1% respectively) in comparison to those in our study.
- One of the limitations of this study is being a hospital-based rather than a population-based study. Over or under-estimation of the prevalence of PXF and or co-morbidities associated with PXF may be attributed to the hospital based nature of the study
- Our study showed an increase in the prevalence of PXF with advancing age.
- A strong relationship between glaucoma and PXF is shown
- Proper health education, early screening, frequent follow ups, appropriate timely surgery have good post operative visual recovery and prevents the potentially vision threatening complication.
- Early presentation, diagnosis and treatment leads to good post operative best corrected visual acuity in comparison to late presentation cases.

CONCLUSION-

In conclusion we found the prevalence of PXF in our study is 5.5%.

This rate is slightly higher to other studies conducted in south India, reported by Thomas et al Chennai study(4.9%) whereas prevalence pseudoexfoliation syndrome came out to be 1.8%.

Ophthalmologists should focus on the detection of PXF, especially considering the risks for operative complications related to PXF and the higher prevalence of glaucoma among PXF patients

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