Original Research Article

Pseudoexfoliative cataract with associated systemic disorders

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ABSTRACT

Purpose: To find out the association of various systemic disorder with pseudoexfoliative syndrome.

Materials and Methods: 67 patients aged between 50-80 years who presented to our OPD and diagnosed as pseudoexfoliative cataract from July 2018 to April 2019 were included in our study. Written informed consent was taken from all the participants. Best corrected visual acuity (BCVA), slit lamp examination (SLE), fundoscopy was done in all. Along with these complete blood count, FBS, PPBS, echo, ECG and chest x-ray was done. The data was analysed using SPSS version 17.0. Results were expressed as mean, frequency and percentage.

Results: Out of 67 patients, 17 patients (25.37)% had Diabetes mellitus, 10 patients had hypertension, 2 patients had IHD and one COPD.

Conclusion: Our study shows more association with the diabetes mellitus.

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1. Introduction

Pseudoexfoliation (PXF) syndrome results in the accumulation of pseudoexfoliative material particularly at the pupillary margin of the iris and throughout various structures in the anterior chamber of the eye. The pseudoexfoliative material is deposited on the iris, lens capsule, corneal endothelium, angles leading to phacodonesis, zonular dehiscence. Also seen is dispersion of pigments and rigid pupil. The pseudoexfoliative material is also known to get deposited in heart, lungs, liver and kidney.1–3 Various associations found are Alzheimer’s type of dementia, sensory neural hearing loss and cardiovascular disease.4–6 The aim of our study was to find out the association of various systemic disorder with pseudoexfoliative syndrome.

2. Materials and Methods

A cross-sectional study was conducted from July 2018 to May 2019 at Adichunchanagiri institute of medical sciences, B.G. Nagar. Ethical clearance has been taken from the institution ethics committee. 67 patients (28 males and 39 females) aged between 50-80 years who presented to our Ophthalmology OPD during the time period and diagnosed as pseudoexfoliative cataract after examination were included in our study. Written informed consent was taken from all the participants. Elaborate history was taken from the patients including about their systemic conditions. Routine ophthalmologic examination involved assessment of Best corrected visual acuity (BCVA), slit lamp examination(SLE), IOP, fundoscopy was done in all. Known case of hypertension or blood pressure more than 140/90mm of Hg was taken as hypertensive, Known case of diabetes mellitus or FBS>126mg/dl and PPBS> 200mg/dl was taken as diabetics. Low density lipoprotein<35mg/dl for males and <45mg/dl for females was taken as dyslipidemia. Patients on treatment or newly diagnosed cases of COPD was recorded. Along with these complete blood count, FBS, PPBS, echo, ECG and chest x-ray was done whenever required. The data was analysed using SPSS version 17.0. Results were expressed as mean, frequency and percentage.

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3. Results

Out of 67 patients, males included 28 and females 39. Total of 126 PXF eyes were seen out of which 59 were bilateral and 8 unilateral. Pseudoexfoliative syndrome was more associated with Diabetes Mellitus (17 patients - 25.37%) followed by Hypertension (10 patients - 14.92%) in our study. Also 2 cases were IHD and one patient had COPD (Table 1).

Table 1: Total number and percentage distribution of various systemic associations with pseudoexfoliation

| Comorbidities | Pseudoexfoliative patients | Percentage (%) |
|---------------|----------------------------|----------------|
| Diabetes Mellitus | 17                         | 25.37          |
| Hypertension  | 10                         | 14.92          |
| IHD           | 2                          | 2.96           |
| COPD          | 1                          | 1.49           |

4. Discussion

In our study we found that more association with diabetes mellitus, hypertension being the second leading association. This highlights correlation between diabetes mellitus and PXF eyes. Australian Blue Mountains Eye study showed pseudoexfoliation was significantly associated with a history of hypertension, angina or both.7 Gonen et al in a study showed higher incidence of renal artery stenosis and hypertension.8 Citrik et al showed significant difference in pseudoexfoliation prevalence with coronary artery disease and also in the prevalence of coronary artery disease in pseudoexfoliation.9 Andrikopoulos et al10 showed positive association of pseudoexfoliation with the risk for coronary artery disease in patients above 50yrs of age. Strength of our study is standard parameter for hypertension and diabetes mellitus in accordance with guidelines. All cases were examined by a single examiner and there was no interobserver variability. Limitations of our study were observer bias, small sample size and gender imbalance.

5. Conclusion

Systemic associations are known. In our study we found that more association with diabetes mellitus, hypertension being the second leading association. Further research is needed to establish the association of diabetes mellitus and COPD with the pseudoexfoliation with eyes.

6. Source of Funding

None.

7. Conflict of Interest

None.

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