FREQUENCY OF PSEUDOEXFOLIATION SYNDROME IN PATIENTS UNDERGOING CATARACT SURGERY IN EYE DEPARTMENT MILITARY HOSPITAL RAWALPINDI

Umar Ijaz, Amer Yaqub, Imran Sarwar, Kamran Saeed

Military Hospital Rawalpindi

ABSTRACT

Objectives: To determine the frequency of Pseudoexfoliation syndrome (PXS) in patients greater than 40 years of age, undergoing cataract surgery in Eye department Military Hospital Rawalpindi.

Design: Quasi experimental Study.

Place and Duration: Eye Department Military Hospital Rawalpindi, for 06 months duration, from March 2005 to August 2005.

Patients and Methods: A total of 1008 patients, greater than 40 years of age, admitted in Eye department Military Hospital Rawalpindi for cataract surgery were included.

Patients were examined on slit lamp for evidence of PXS and those with the disease were subjected to further thorough examination including Visual acuity, Goldmann applanation tonometry, gonioscopy, slit lamp examination before and after dilation of the pupil and fundus examination.

Results: Out of 1008 patients 36 (3.57%) were found to be having PXS, out of which 29 patients were male and 7 females. Male to female ratio was 4:1 appx. The disease was bilateral in 66.7% (24 cases) and unilateral in 33.3% (12 cases). The frequency increased with advancing age.

***Conclusion*:** Frequency of PXS increases with the advancing age with associatation but associated with grade in insignificant.

Keywords: Pseudoexfoliation syndrome, Zonules, Keratic precipitate, Go nioscopy.

INTRODUCTION

Pseudoexfoliation syndrome (PXS) is characterized by the production and progressive accumulation of a fibrillar extra cellular material in many ocular tissues. When averaged across the globe, it is the most common identifiable cause of glaucoma worldwide, and in some countries accounts for the majority of glaucoma [1]. It leads to both open angle glaucoma and angle-closure glaucoma, and has been causatively associated with cataract, lens dislocation, and central retinal vein occlusion [2] (CRVO). Eyes with PXS have a greater frequency of complications at the time of cataract extraction, such as zonular dialysis, capsular rupture, and vitreous loss. Based on the identification of accumulations in orbital tissues, skin specimens, and visceral organs, PXS appears to be a generalized disorder of the extra cellular matrix [3]. The potential ramifications of this disorder appear to be far more important than ever before realized.

PXS occurs worldwide, although reported prevalence rates vary extensively. This reflects a combination of true differences due to racial, ethnic, or other as-yet-unknown reasons; the age and sex distribution of the patients or population group examined; the clinical criteria used to diagnose PXS; the ability of the examiner to detect early stages; the thoroughness of the examination; and the awareness of the observer [4]. Recent studies in some countries, such as Spain and Hungary, suggest literally an order of

Correspondence: Major (Dr) Umar Ejaz, H/No. 13, St 9 Sector-B, Phase-1 Defence Housing Authority, Islamabad (Morgah)
E-mail: umerijaz74@yahoo.com
Received: 27 Aug 2007: Accepted 12 Jan 2009

magnitude higher prevalence of PXS in the population and in glaucoma patients than reported 30-40 years ago. This obviously represents improvement in the ability to look for and identify the material clinically.

In Scandinavia, where PXS was first described, the highest rates in studies of persons over age 60 have been reported from Iceland [5] (about 25%) and Finland [6] (over 20%). Russian Jewish immigrants to the United States also have a very high prevalence of PXS [7]. PXS is also very common in Ireland, the Middle East, India [8], Pakistan [9] and Japan.

The prevalence of PXS may also vary within countries in similar environments and over short distances. Differences among ethnically homogeneous persons or between ethnic groups living in close proximity might lead to useful investigations. PXS increases in prevalence with age. Men and women are probably equally affected [10, 11]. In the United States, whites are affected much more often than African-Americans.

Most of the earlier authors believed that the condition is more prevalent in the Scandinavian countries. However in one study of 2058 patients over age 60 examined by a single investigator in three countries, Aasved [4] reported respective prevalence of pseudoexfoliation of 4.0% in England, 4.7% in Germany, and 6.3% in Norway. The purpose of our study was to determine the frequency of PXS in our patients attending Eye department Military Hospital Rawalpindi, for cataract surgery. These patients represent the bulk of general population of all of Pakistan because of the fact that Army is a mass organization having individuals belonging to different ethnic groups and areas of the country. This can yield useful information regarding the prevalence of this condition in our part of the world.

PATIENTS AND METHODS

This Quasi experimental was undertaken from March 2005 to Aug 2005 in department of Ophthalmology Military Hospital Rawalpindi. This study included 1008 patients. All patients of senile cataract of both sexes, greater than 40 years of age admitted in Eye ward Military Hospital Rawalpindi for cataract surgery were included in the study. Patients with secondary cataract, Pigment dispersion syndrome, Uveitic Glaucoma, true exfoliation of the lens and patients simultaneously suffering from other eye diseases were excluded .Initial examination consisted of slit lamp biomicroscopy for evidence of Pseudoexfoliation material on the edge of pupil or lens in undilated state and those having suspicion of the disease the pupil were dilated and repeat slit lamp examination were performed. Examination consisted of general physical and systemic examination and full ocular examination. The ocular examination consisted of visual acuity testing, slit lamp examination of the anterior segment, transillumination, gonioscopy, applanation tonometry and fundus examination. Shaffer grading system was used for angle width measurement.

Data Analyses

Data had been analyzed using SPSS version 10. Mean and standard deviation (SD) were used to describe the variables frequency and percentage was used to describe categorical variables. Chi-square test was used to check association of PXS with age and gender. P-value <0.05 was considered as significant.

RESULTS

Out of 1008 patients examined 670 were male and 338 were female. Male to female ratio in total was 2:1 approximately. Those having PXS were 36, out of which 29(80.55%) patients were male and 7(19.44%) females (Fig.1). Male to female ratio was 4:1 appx. The association of PXS with gender was however

statistically insignificant (p =0.068). Minimum age amongst patients was 43 years maximum was 76 years. The mean age was 57.22 years, standard deviation 9.314 .In age group 40-49 y, total 277 patients examined, 180 were male and 97 females. Out of which 5 cases of PXS were found. All were male .In age group 50-59 y, total 365 patients examined, 275 were male and 90 females. Out of which 7 cases of PXS were found. 6 were male and 1 female .In age group 60-69 y, total 213 patients examined, 140 were male and 73 females. Out of which 15 cases of PXS were found. 12 were male and 3 females. In age group 70-80 y, total 153 patients examined, 75 were male and 78 females. Out of which 9 cases of PXS were found. 6 were male and 3 females (Fig.2).

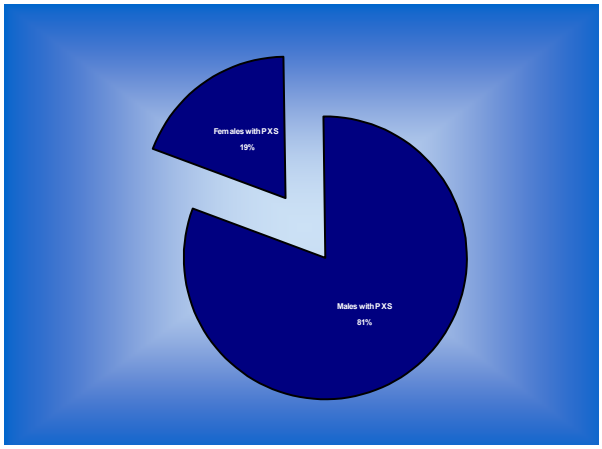

Fig.1: Gender wise Distribution of Pseudoexfoliation Syndrome

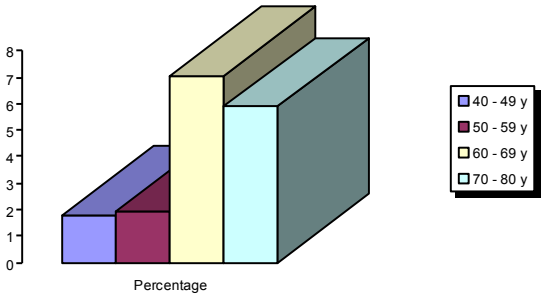

Fig.2: Increased Percentages of PXS with Increasing Age

DISCUSSION

Most of the earlier authors believed that the condition is more prevalent in the Scandinavian countries [12]. However in one study of 2058 patients over age 60 examined by a single investigator in three countries, Aasved [4] reported respective prevalence of pseudoexfoliation of 4.0% in England, 4.7% in Germany, and 6.3% in Norway. In Pakistan the prevalence has been reported as 1.2% in persons over 40 years of age and 5.1% in those over 60 years of age [13]. Our figures of 1.86% in patients over 40 years of age and 6.55% above 60 years of age are comparable with the above mentioned study. Because PXS is frequently associated with cataract [14, 15] and inclusion criteria for our study was only those patients having cataract and are undergoing surgery, so this probably does not reflect a true difference. In our study frequency of 7.04% in persons 60-69 years age group and 5.88% in persons 70-80 years age group is not far from comparison to that of Aasvad's study and study from Pakistan. As the disease usually affects the elderly [16] and a steady increase in frequency occurs with advancing age, our data (p= 0.018) is also supportive of the observation. The decrease frequency of PXS in the last age group (70-80 years) can be explained because of less number of male patients in this group as compared to the previous groups.

The disease is thought to occur in an earlier age group in some communities, the youngest in our study was a 47 years old male having unilateral PXS. While from Pakistan a lady of 32 years of age is reported as the youngest [9].

On presentation the PXS is unilateral in about two third cases. The probability of unilateral disease becoming bilateral is estimated at 6.8 ± 0.5% in first 5 years and 16.8± 2.2% in 10 years [1]. In our study however, 67% cases were bilateral while 33% unilateral. Male to female preponderance is not yet settled; some studies have shown that PXS is more common in females [11]. For Pakistan a previous study reported a male preponderance with a ratio of male to female of 3:1 [13]. Our study also gives a comparable male preponderance with a ratio of male to female of 4:1.

CONCLUSIONS

In our study frequency of PXS in patients admitted for cataract surgery was 3.57%. Its frequency was age dependant and increased with the advancing age. There was insignificant association of PXS with gender although the frequency of PXS was observed to be more in males in our study.

REFERENCES

1. Ritch R. Pseudoexfoliation syndrome. [Editorial]. Pak J Ophthalmol 1988; 4:95-7.
2. Karjalainen K, Tarkkanen A, Merenmies L. Exfoliation syndrome in enucleated haemorrhagic and absolute glaucoma. Acta Ophthalmol 1987; 65: 320-2.
3. Streeten BW, Li ZY, Wallace RN. Pseudoexfoliative fibrillopathy in visceral organs of a patient with pseudoexfoliation syndrome. Arch Ophthalmol 1992; 110: 1757-62.
4. Aasved H. The geographical distribution of fibrillopathia epitheliocapsularis. Acta Ophthalmol 1969; 47:792-810.
5. Sveinsson D. The frequency of senile exfoliation in Iceland. Acta Ophthalmol 1974; 52: 596-602.
6. Krause U. Frequency of capsular glaucoma in central Finland. Acta Ophthalmol 1973; 51:235-40.
7. Levey SB, Wahl SM, Abrams DA. Pseudoexfoliation syndrome in the Russian immigrant population. Ann Ophthalmol 1995; 27: 366-8.
8. Sood NN, Ratnaraj A. Pseudoexfoliation of the lens capsule. Orient Arch Ophthalmol 1968; 6:62.
9. Khanzada AM. Exfoliation syndrome in Pakistan. Pak J Ophthalmol 1986; 2: 7-9.
10. Lahners WJ, Samuelson TW. Pseudoexfoliative Glaucoma. In: Yanoff M, Duker JS. Ophthalmology Philadelphia: Mosby, 2004; 223: :2: 1499.
11. Skuta GL. Pseudo exfoliation syndrome. In: Tasman W, Jeagar EA, editors. Duane's Clinical Ophthalmology. Philadelphia: J B Lippincott. 1997; 3: 1-10.
12. Kanski JJ, Glaucoma. In: Kanski JJ. Clinical ophthalmology. London: Butterworths, 2003; 9: 5: 229.
13. Mohammad S, Kazmi N. Subluxation of the lens and ocular hypertension in exfoliation syndrome. Pak J Ophthalmol 1986; 2:77-8.
14. Hiller R, Sperduto RD, Krueger DE. Pseudoexfoliation, intraocular pressure and senile lens changes in a popula-tion-based survey. Arch Ophthalmol 1982; 100: 1080.
15. Roth M, Epstein DL. Exfoliation syndrome. Am J Ophthalmol 1980; 89: 477.
16. Duke Elder S. Diseases of the lens and vitreous: Glaucoma and hypotony. In: Duke Elder S, editors. System of Ophthalmology. Volume XI. St Louis: Mosby, 1969; 42-57.
