

Research Article

Study of prevalence and socio-demographic determinants of pterygium patients attending at a tertiary care teaching hospital of Western Maharashtra, India

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ABSTRACT

Background: The pterygium is known to cause refractive errors including astigmatism, which can have negative impact on the vision. The present study was carried out to find out the prevalence and socio-demographic determinants of pterygium patients attending Pravara rural hospital, Loni, Maharashtra, India.

Methods: A cross-sectional study was conducted in outpatient department of ophthalmology in Pravara rural hospital, Loni. A total of 1910 patients of various ocular morbidities were registered during the studied period in the department of ophthalmology, among these, 100 patients who had pterygium were reviewed. All 100 patients were examined by torch and slit lamp. Data were analysed statistically using percentage and proportions whenever necessary.

Results: Out of the 100 pterygium patients, 48% were in the age group of >60 years, followed by 32% in the age group of 51-60 years. In relation to occupation, maximum 82% patients were farm labours followed by 11% were house workers. Majority (62%) having unilateral, while (38%) was having bilateral pterygium. All cases of pterygium were nasal.

Conclusion: People who work outdoors are subjected to increase U.V. exposure. So people must be aware of this and they must take appropriate precautions like wearing protective glasses and caps etc.

Keywords: Pterygium, Prevalence, Occupation, Socio-demographic determinants

INTRODUCTION

Pterygium means wing shape. It is triangular fold of conjunctiva over cornea. Actually pterygium is degenerative condition of subconjunctival tissue which proliferates as vascularized granulation tissue to invade the cornea destroying superficial layers of stroma and Bowmans membrane, the whole being covered by conjunctival epithelium.¹ Pterygium is common condition. Its existence was recognized in the period of Hippocrates

(460-375 BC). Great surgeon of ancient India Sushruta (3000 BC) described it as Armans. Pterygium is more common in elderly male doing outdoor work. In the study of McCarty CA et al.² multivariate analysis revealed increasing age, male gender and poor education level were significant factors for any pterygium. It may be unilateral or bilateral. Pterygium is an asymptomatic condition in early stages. Visual disturbances occur when it encroaches pupillary area or development of corneal astigmatism. Progressive pterygium is highly vascular

and thick while atrophic pterygium is thin and pale. Pterygium is treated by surgical processes like excision of pterygium with bare sclera with local application of mitomycin C or conjunctival autograft. Hence the present study was carried out to find out the prevalence and socio-demographic determinants of pterygium patients attending Pravara rural hospital, Loni, Maharashtra, India.

METHODS

A cross-sectional study was conducted in the outpatient department of ophthalmology of Pravara rural hospital, Loni, during the month of November and December 2013. Pravara rural hospital is a tertiary level health care center attached as a teaching hospital of rural medical college, Loni, Maharashtra, India.

A total of 1910 patients of various ocular morbidities were registered during the studied period in the department of ophthalmology, among these, 100 patients who had pterygium were reviewed. Detailed ocular examination was done by an ophthalmic team. Patients were examined with the help of torch, slit-lamp, and direct ophthalmoscope. Information regarding name, age, sex, occupation, addiction, whether unilateral or bilateral, nasal or temporal were also noted.

All recorded data for studied periods were entered in MS excel and analyzed in the form of percentage and proportions whenever appropriate.

RESULTS

A total of 1910 patients of various ocular morbidities were registered during the studied period in the outpatient department of ophthalmology, among these, 100 (5.23%) patients had pterygium, and of which (62%) were males and (38%) were females, which show predominance of males over females.

The Bio-social characteristics of the study population were depicted in Table 1.

Out of the 100 pterygium patients, 48% were in the age group of >60 years, followed by 32% in the age group of 51-60 years, with the lowest 20% in the age group of 40-50 years. Occupation of the study population showed that maximum 82% patients were farm labours followed by 11% were house workers, office staff (4%), teachers (2%) and (1%) was traffic police.

In relation to religion of the study population, majority 65% were Hindus followed by 25% were Muslims. Majority (62%) having unilateral pterygium, while (38%) having bilateral. All cases of pterygium were nasal. Due to bilateral involvement, total eyes having pterygium were 138; of which 98 (71.1%) were progressive and 40 (28.9%) were atrophic type.

Table 1: Bio-social characteristics of study population.

Bio-social characteristics	Numbers
Age (years)	
40-50	32 (32%)
51-60	20 (20%)
61-70	48 (48%)
Gender	
Male	62 (62%)
Female	38 (38%)
Occupation	
Farm labours	82 (82%)
House work	11 (11%)
Office staff	04 (4%)
Teacher	02 (2%)
Traffic police	01 (1%)
Religion	
Hindu	65 (65%)
Muslim	25 (25%)
Christian	03 (3%)
Other	07 (7%)
Side of pterygium	
Unilateral	62 (62%)
Bilateral	38 (38%)
Position of pterygium	
Nasal	138 (100%)
Temporal	00 (0.00%)
Type of pterygium	
Progressive	98 (71.1%)
Atrophic	40 (28.9%)

DISCUSSION

Pterygium appears as a triangular fold of vascularized conjunctiva, the apex of which lies towards the cornea and base merges with the sub-conjunctival tissue. In the present study, male patients (62%) were more as compare to females (38%), which show predominance of males over females. Probable reasons for this is in India mainly male are more actively exposed to outdoor activity hence more exposure to dust and sunlight. Similar observation was made by Rohatgi S,³ in his study 60% were males and 40% were females. According to Khurana AK⁴ pterygium is more common in elderly male doing outdoor work. Parthswamy & Gupta⁵ has made same observation; Wong TY et al.⁶ in a Tangjong also reported that prevalence of pterygium was much more common in males than in females. In this study, more patients were between 61-70 years of age because as age advances prevalence of pterygium increases. Similar observation was made by Rohatgi S,³ and Viso E et al.⁷ According to Yoon KC et al.⁸ also showed that prevalence of pterygium increases with advancement of age.

In relation to occupation, maximum (82%) patients were farm labours as compare to other persons having indoor

activity. Farm labours are more exposed to sunlight and dust and other atmospheric irritating agents. Similar observation was made by Maharjan IM et al.⁹ in their study 64.66% were outdoor workers. The study conducted in Spain by Viso E et al.⁷ showed the direct relationship of pterygium and prolonged exposure of UV light. In the study of Rohatgi S³ revealed that condition was maximum in farmers (40%) followed by labours (20%), office workers (10%) and prevalence of pterygium was 7%. The outdoor nature of postal work was significantly associated with occurrence of pterygium. This confirms the role of dry, dusty, and hot climate for the incidence of pterygium. This correlates with the findings of Elliot R¹⁰ & Talbot G.¹¹ Mackenzie FD et al.¹² in their study on the risk factors in the development of pterygium suggest a strong causal relationship with exposure to ultraviolet light.

In our study 62% cases of pterygium were unilateral, whereas 38% cases were bilateral. A study done by Maharjan et al.⁹ showed that 81.88% cases of pterygium were unilateral and 18.12% was bilateral. In Singapore Malay eye study a higher prevalence of bilateral pterygium comprising of 41.44% cases were observed. Durkin SR et al.¹³ in Meiktila eye study in Australia showed that 8% of cases had bilateral pterygium and same percentage was seen in motorcyclists in Nigerian study.

In this study, all cases (100%) of pterygium were on nasal side. A study done by Rohatgi S³ found that 92% cases of pterygium belong to nasal side, while only 4% were temporal side. Higher incidence of pterygium on nasal side was due to flow of tears towards medial canthus carrying with sand & dust particle towards nasal side. According to Archila EA et al.¹⁴ found that nasal presentation is more common because transmission of UV light from temporal side of cornea through stroma to nasal aspect of eye. In our study, progressive pterygium were present in 72.4% eyes and atrophic were in 27.6% eyes. Other authors had not focused on this point.

CONCLUSION

From present study, we may conclude that pterygium is significant health problem. Pterygium is more common in elderly male doing outdoor work. So it is suggested that people doing outdoor work should wear photo protective goggles while working.

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Ethical approval: The study was approved by the institutional ethics committee

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