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STUDY OF PTERYGIUM CASES ATTENDING GOVERNMENT MEDICAL COLLEGE, KOTA, RAJASTHAN, INDIA

Ophthalmology

Dr. Nizamuddin* Assistant Professor ophthalmology, Department of Ophthalmology, Government Medical College,Kota, Rajasthan *Corresponding Author

Dr. M. Younus Ansari Medical officer, Department of Ophthalmology, Government Medical College,Kota, Rajasthan

Dr. Jaishree Singh Professor ophthalmology, Department of Ophthalmology, Government Medical College,Kota, Rajasthan

ABSTRACT

Background: Pterygium is a wing shaped fibrovascular degeneration of the bulbar conjunctiva that grows towards and over the cornea. It is also called "Nakoona" in Hindi, due to its resemblance to a nail in its shape.

Methods: This retrospective observational study was conducted at Department of Ophthalmology of GMC Kota, Rajasthan, India. A total of 393 eyes with pterygium were examined for various sociodemographic factors especially age, sex, residence, occupation, position and nature of pterygium etc. on the occurrence of this problem.

Results: In the present study, out of 393 eyes, 34.35% were in the age of 31-40 years followed by 23.16% in 41-50years, 64.38% were males whereas 69.21% belong to rural areas. The incidence was found to be maximum among farmers 35.11% followed by labourers 21.12%. The right eye was involved in 52.16% cases while majority 96.18% cases of pterygium were nasal. Progressive pterygium was found in 82.19% and the most common complaint of the patients was appearance of fleshy mass and cosmatic disfigurement (77.35%) .

Conclusions:. People who work outdoors are subjected to involuntary exposure to environmental irritants like heat, dust, fumes, gases and UV radiation which are the main etiological factors, should take appropriate precautions such as use of UV protective glasses, hats and umbrellas to protect their eyes.

KEYWORDS

Conjunctiva, Incidence, Occupation, Pterygium

INTRODUCTION

Pterygium is a wing shaped fibrovascular degeneration of the bulbar conjunctiva that grows towards and over the cornea. It is a common disorder of ocular surface in many parts of world described as ophthalmic enigma.[1,2] The word pterygium derives its name from "Pteryx" which is the Greek word for wing. It is probably because the shape and vascularity of pterygium resemble the wing of certain insects e.g. Hymenoptera.[3] The wing shape of pterygium has supported the concept of localized limbal stem cell deficiency as a renowned cause of pterygium formation.[4] In India, it is called 'Nakoona' in Hindi, due to its resemblance to a nail in its shape.[5] Sushruta, the great surgeon of ancient India described it in his texts and called as "Armans". It may cause irregular astigmatism , visual impairment, irritation and cosmetic problems. Dryness, inflammation and exposure to wind and dust or other irritants may be risk factors for its development but its pathogenesis is most strongly correlated with ultraviolet exposure making it more common in tropical countries near equator. It also has been reported several times that increasing age, male gender, outdoor occupation and systemic factors like hypertension are risk factors suggesting multifactorial etiology for this condition. It is a potentially blinding disease in the advanced stage when it encroaches visual axis, which can have significant impact on vision and require surgery for visual rehabilitation.[7]

MATERIAL AND METHOD

This study is a retrospective observational study. The study population included all pterygium patients attending out patient department of Department Of Ophthalmology, Govt. Medical College, Kota, Rajasthan during the period from April 2017 to March 2018.A total number of 393 eyes in 206 patients were examined. The patient's information such as name, age, sex, address, occupation, chief complaint, side of pterygium (right/left eye), position of pterygium (nasal/temporal/both), nature of growth of pterygium (progressive/atrophic), history, general examination and local examination were noted in predesigned proforma. All the data collected were tabulated and analysed after it.

RESULTS AND DISCUSSION

All the results are shown in Table 1.

Table 1: Sociodemographic characteristics of study population.

	Number of eyes	Percentage
Age (in years)		
21-30	69	17.56
31-40	135	34.35
41-50	91	23.16
51- 60	59	15.01
61-70	32	8.14
71 & above	7	1.78
Sex		
Male	253	64.38
female	140	35.62
Residence		
Rural	272	69.21
Urban	121	30.79
Occupation		
Farmers	138	35.11
Labourers	83	21.12
Office staff	54	13.74
Students	28	7.12
Housewives	90	22.90
Eye involved		
Right eye	205	52.16
Left eye	188	47.84
Position of pterygium		
Nasal	378	96.18
Temporal	11	2.80
Double	4	1.02
Nature of pterygium		
Proggressive	323	82.19
Atrophic	70	17.81
Chief complaint		
Appearance of fleshy mass	304	77.35
Blurring of vision	16	4.07
Foreign body sensation	28	7.12
Itching	18	4.58
Redness	27	6.87

Pterygium is a common disease of ocular surface where cornea is invaded by fibrovascular tissue from bulbar conjunctiva. This

fibrovascular tissue may cause chronic ocular irritation, tear film disturbance, decreased visual acuity secondary to induced astigmatism and by growth over visual axis. Pterygium is an ocular degenerative condition that has been attributed to environmental factors.[9] Although the exact etiology of pterygium is unknown, exposure to ultraviolet (UV) radiation is thought to be the major environmental risk factor as it is found in areas of bright sunlight.[8,9] Age, hereditary factors, sunlight, chronic inflammation, microtrauma, and dry eye are other possible contributing factors.[8]

In our study maximum number of patients (34.35%) were in the age group 31-40 years followed by 23.16% in age group 41-50 years and 17.56% in age group 21-30 years. The risk of pterygium increases in patients who are in their fourth decade of life and work outdoor in an environment with high surface reflectance compare with those who work indoor. Rajiv et al had also found in their study that most of the cases of pterygium belong to age group 30-40 years.[11] Osahon et al in their study in Benin city found the peak prevalence rate to be in the age group 31-40 years.[12] Rohatgi S found that maximum number of pterygium patients in his study were in the age group 30-39 years (32%).[5] Ganeshpuri AS et al in a study on 62 pterygium patients found that maximum patients i.e.22 were in age group of 31-40 years followed by 17 in the age group of 41-50.[10] Sharma A et al in their study on 80 eyes with primary nasal pterygium found that maximum number of patients i.e.26 are in age group (31-40) followed by 21 in age group (21-30).[13]

In the present study males (64.38%) were affected more than females (35.62%). Higher incidence in males is due to more exposure to dust, wind, heat and sun to which they are exposed while outdoor activities for their livelihood and the chief factor in the etiology was exposure to atmospheric irritants leading to chronic irritation of the conjunctiva.[5] Rajiv et al had also found that pterygium was most commonly seen in males 64.29% as compared to females 35.71%.[11] Similar observations were made by Saleem M et al in their study of 120 patients where 79.16% were males and only 20.84% were females.[14] According to Khan N et al and Rahman A et al pterygium is more common in males than females.[15,16] Krishnaram K and El-Sersy TH have made the same observations.[17,18] Ganeshpuri AS et al had also reported that pterygium is more common in males (58.06) than females(41.94).[10] Prabhakar SK also concluded that males suffered more than females.[19]

Our study revealed that higher incidence of pterygium was found in patients who lived in rural areas (69.21%) as compared to urban areas (30.79%). The tendency of prevalence of pterygium in rural area is more because of constant exposure of persons to more open and dusty environment in comparison to urban people.[20] Moreover the lifetime ocular sun exposure is an independent risk factor of pterygium and the pterygium is a significant public health problem in rural areas, primarily due to ocular sun exposure.[21] Pandey DJ et al in a study on 1400 pterygium patients found that maximum number of patients (929) were of rural background.[20] According to Asokan R pterygium was found more in those patients who live in rural areas.[22] Similar observation was made by Rohatgi S in his study on 50 pterygium patients where 72% patients were from rural areas and only 28% from urban areas.[5]

In the present study, out of 393, the maximum number of patients were farmers comprising 35.11% of total study population followed by labourers (21.12%). The farmers and labourers are constantly exposed to dry, dusty, hot climate and incidence of pterygium was maximum in outdoor workers due to environmental irritants like heat, dust, fumes, gases and U.V radiation which are the main aetiological factors.[5] Rohatgi S had also found that maximum number of patients (40%) affected with pterygium were farmers.[5] Maharjan MI et al and Chavan WM et al had also made similar observations.[23,24]

In present study right eye was involved in 52.16% whereas left eye was involved in 47.84% cases. Present study is in accordance with Rahman A et al who in his study found 72.1% of patients had pterygium in right eye.[16] Krishnaram K and Maharjan MI et al had also found that right eye was predominantly affected then the left eye.[17,23]

In present study 96.18% cases of pterygium belonged to nasal side. Higher incidence of pterygium on nasal side was due to flow of tears towards medial canthus carrying with it sand and dust particles towards nasal side.[5] Nasal presentation being more common may be due to transmission of UV light from temporal side of cornea through the stroma on to the nasal aspect of eye, perhaps explaining why these lesions are more common nasally.[25] Krishnaram K and Chavan WM et al found that all cases of pterygium were nasal in presentation.[17,24] Similar observations were made both by Rohatgi S and Prabhakar SK who in their respective studies found that approximately 92% cases of pterygium belonged to nasal side.[5,19]

In present study, progressive pterygium was present in 82.19% of cases and the most common complaint of the patients was appearance of fleshy mass and cosmatic disfigurement (77.35%) whereas atrophic pterygium was present in 17.81% cases. Similar observation was made by Chavan WM et al in their study where they found progressive pterygium in 72.4% eyes and atrophic in 27.6% eyes.[24] Krishnaram K in his study on 115 pterygium patients found that in 78 patients, pterygium was progressive in nature while in 37 patients it was atrophic.[17]

CONCLUSION

From present study we may conclude that most of the cases of pterygium were seen in the middle aged people. Incidence of pterygium was more in males (64.38%) than in females (35.62%). People who work outdoors are subjected to involuntary exposure to environmental irritants like heat, dust, fumes, gases and UV radiation which are the main etiological factors therefore these people should take appropriate precautions such as use of UV protective glasses, hats and umbrellas to protect their eyes. They should also avoid exposure of their eyes to strong winds and heat from open flames.

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