Journal of Cardiovascular Disease Research

ISSN:0975 -3583,0976-2833 VOL13, ISSUE 05, 2022

Original research article

Clinical profile of patients with pterygium attending tertiary care hospital

[1]Dr. Nirmal Kumar B, [2]Dr. Madan Joshi, [3]Dr. Manasa HV, [4]Dr. Shweta Balakundi

[1]Associate Professor, VIMS, Ballari, Karnataka, India

[2]Assistant Professor, VIMS, Ballari, Karnataka, India

[3,4]Senior Resident, VIMS, Ballari, Karnataka, India

Corresponding Author:

Dr. Shweta Balakundi

Abstract

A pterygium occurs with higher frequency (above 10%) in warm, sunny areas between 30 degrees latitude north and south of the equator. Most comprehensive epidemiological study done to date in the tropics is the Barbados Eye Study. The prevalence of pterygium in darker skin people (94.1% of the population) was found to be 23.4%, in the mixed group (3.5% of the population) it was 27.8% and in the lightly pigmented group (2.4% of the population) it was 10.2%. All patients who presented to the ophthalmology department with primary pterygium of grade 1 to grade 3 during the study period were included in the study. Shows majority of the pterygia were of grade 2 (83.3%) among them 1 had cystic pterygium, least were grade 1 (10%) and grade 3 (6.7%).

Keywords: Pterygium, UV radiation, clinical profile

Introduction

Pterygium is defined as a triangular fibro vascular growth of the bulbar conjunctiva encroaching on top the cornea in the interpalpebral fissure [1].

A pterygium occurs with higher frequency (above 10%) in warm, sunny areas between 30 degrees latitude north and south of the equator. Most comprehensive epidemiological study done to date in the tropics to date is the Barbados Eye Study. The prevalence of pterygium in darker skin people (94.1% of the population) was found to be 23.4%, in the mixed group (3.5% of the population) it was 27.8% and in the lightly pigmented group (2.4% of the population) it was 10.2%. Increasing age, ultraviolet (UV) radiation, chronic irritation and genetic predisposition are the other risk factors. People living on the small islands have a higher prevalence of pterygium than those living on larger islands with more tree coverage, darker volcanic sand and higher elevations. Similarly, those individuals living on the coastal areas have more pterygia than those living in the mountainous areas [2]. The inherited characteristics would still be phenotypic and would be consistent with prominence of the eye in the orbit, variation in the amount and quality of the tear film, variations in blink rate and varying sensitivity to UV radiation. In Asia, pterygium is found in the 20-30-year-old age group with predominance of males as well as in those with allergies, dry eyes and exposure to chronic irritation. Prevalence was higher in factory workers than in office workers, higher in rural areas than in the city and highest in fishermen [3].

Occurrence of pterygium is more common on nasal conjunctive than the temporal conjunctiva. It may occur in both sides actively (Double pterygium). Occasionally Nasal and temporal pterygia can occur in the same eye but isolated temporal pterygia are rare. Both eyes are frequently involved but often asymmetrically. At times 4 pterygia may be present in an individual [4].

Methodology

Sources of data

It is a prospective interventional study planned on patients with pterygium attending Ophthalmology department, applying following inclusion and exclusion criteria.

Study design: Prospective interventional study

Place of study: Department of Ophthalmology

Sample size

30 patients were included in this study after taking valid consent. Patients were subjected to detailed ophthalmic evaluation and data was recorded in a specially designed proforma and transferred to master sheet and the data was subjected to statistical analysis by the biostatistician.

ISSN:0975 -3583,0976-2833 VOL13, ISSUE 05, 2022

Inclusion criteria
All patients who presented to the ophthalmology department with primary pterygium of grade 1 to grade 3 during the study period were included in the study.

Exclusion criteria
1. Recurrent pterygium.
2. Grade 4 pterygium.
3. Corneal pathology.
4. Glaucoma.
5. Infection, Inflammation.
6. Coexisting retinal pathology.
7. Coagulation factor deficiency.
8. Previous ocular surgery or trauma.

Assessment consists of: Preoperative
- Eliciting appropriate history.
- Visual acuity testing.
- Refraction.
- Slit lamp examination.
- Fundus examination.
- Intra ocular pressure measurement.

Results

Table 1: Showing Age distribution

Age	No of cases	Percent
≤ 20	1	3.3
21-30	5	16.7
31-40	9	30.0
41-50	5	16.7
51-60	7	23.3
61-70	3	10.0
Total	30	100.0

Of the studied population 1 patient (3.3%) was in the age group of <20 year, 5 patients (16.7%) were in the age group of 21-30 year, 9 patients (30%) were in the age group of 31-40 year, 5 patients (16.7%) in the age group of 41-50 year, 7 patients (23.3%) in the age group of 51-60 year, 3 patients (10%) in the age group of 61-70 year.
Majority of the patients were in the age group of 31-40 years.
In our study 44.13 years was the mean age and the standard deviation being 13.91 years.

Table 2: Showing Gender distribution

Gender	No of cases	Percent
Male	7	23.3
Female	23	76.7
Total	30	100.0

Of the studied population 7 patients were male (23.3%) and 23 patients were female (76.7%).
Majority of patients in our study were females.

Table 3: Showing distribution of Pterygia among various Occupation

Occupation	No of cases	Percent
Housewife	3	10
Labourer	8	26.67
Farmer	10	33.33
Student	2	6.7
Teacher	2	6.7
Engineer	1	3.3
Others	4	13.3
Total	30	100.0

Above table shows that 3(10%) patients were housewife, 8 (26.67%) were labourer, 10(33.3%) were

ISSN:0975 -3583,0976-2833 VOL13, ISSUE 05, 2022

farmer, 2(6.7%) were student, 2(6.7%) were teacher, 1(3.3%) engineer and others 4(13.3%) patients were clerk, shop owner and peon.

Table 4: Showing distribution of cases among indoors and outdoors

Indoors and Outdoors	No. of Cases	Percent
Outdoor	18	60
Indoor	12	40
Total	30	100

Among 30 cases in our study, majority of them 18 cases were outdoor workers constituting 60%, rest 12 cases (40%) were indoor workers.

Table 5: Showing Laterality

Laterality	No of cases	Percent
Unilateral	19	63.3
Bilateral	11	36.7
Total	30	100.0

The above table shows that 19(63.3%) pterygia were unilateral, 11(36.7%) pterygia were bilateral.

Table 6: Shows Location of Pterygia

Nasal	No of cases	Percent
RE Nasal	19	63.3
LE nasal	11	36.7
Total	30	100.0

The above table shows that all were nasal pterygia, 19(63.3%) were right sided and 11(36.7%) were left sided.

Table 7: Shows Grading of Pterygium

Grading	No of cases	Percent
One	3	10.0
Two	25	83.3
Three	2	6.7
Total	30	100.0

The above table shows majority of the pterygia were of grade 2 (83.3%) among them 1 had cystic pterygium, least were grade 1 (10%) and grade 3 (6.7%).

Discussion

In this study incidence of pterygium was found to be highest in 31-40years age group (9 patients,30%), 1 patient (3.3%) was in the age group of <20 year, 5 patients (16.7%) were in the age group of 21-30 year, 5 patients (16.7%) in the age group of 41-50 year, 7 patients (23.3%) in the age group of 51-60 year, 3 patients (10%) in the age group of 61-70 year.

Majority of the patients were in the age group of 31-40 years which may be attributed to occupational exposure.

In our study 44.13 years was the mean age and the standard deviation being 13.91 years. This was found to be comparable to other studies.

In study conducted by Shreya Thatte *et al*. among 151 patients, maximum patients were belonging to age group 35 to 50 years (65.35%) and the minimum was found in 70-86 year age group (13.38%) [5].

In study conducted by Gunjan Rathi *et al*., among 50 patients, maximum age group was found to be in mean age group of 42.5 +/- 4 years, range was 30-55 years [6].

In study conducted by Sushobhan Dasgupta *et al*. conducted among 60 patients, maximum number of patients were in the age group of 41-50 years (48.33%), minimum was found in 51-60 years (1.67%) [7].

Among 30 patients in our study, majority were females constituting 76.7% (23 patients) and males constituting 23.33% (7 patients).

Depending upon their socioeconomic status, females were also involved in outdoor activities, this might be the probable reason for majority of female patients involved in our study.

In study conducted by Sayli Bhalchandra Kulthe among 79 eyes of 74 patients underwent suture less, glue free autologous conjunctivolimbal graft after pterygium excision. There were 53 females (67.08%) and 26 males (32.91%) [8].

In study conducted by P. Subhajit Singh among 50 eyes, 45 participants returned for follow-up visits, 28 were females (62.22%) and 17 males (37.77%) [9].

ISSN:0975 -3583,0976-2833 VOL13, ISSUE 05, 2022

In study conducted by Sushobhan Dasgupta among 60 eyes, 44 were females (73%) and 16 were males (27%) [7].

In our study among 30 cases, majority of them 18 cases (60%) were outdoor workers like farmer and labourer, rest 12 cases (40%) were indoor workers like student, teachers, engineers, peon and shopowner. Occupation plays a major role in the aetiology and in pathogenesis of pterygium. In our study prevalence of pterygium was more commonly observed in individuals employed in outdoor activities. Probably due to prolonged period and additive hours of exposure to UV rays.

In study conducted by Kavitha Mallikarjun Salagar and Kalyanappa Gurlingappa Biradar among 100 patients, high incidence was seen in outdoor patients constituting 80% of cases [10].

In our study among 30 patients, majority of them were unilateral in 19 patients (63.3%), bilateral in 11 patients (36.7%).

In study conducted by Kavitha Mallikarjun Salagar and Kalyanappa Gurlingappa Biradar among 100 patients, higher incidence was seen in unilateral constituting 90 cases (90%), bilateral in 10 cases (10%) [10].

In our study among 30 patients, all cases were of nasal pterygium.

In study conducted by Malik KPS *et al*. among 40 eyes, all cases were of primary nasal pterygium [11].

In study conducted by D de Wit *et al*., among 15 eyes of 12 patients, all cases were of primary nasal pterygium [12].

In study conducted by Arvind Kumar Morya *et al*., among 24 patients, all cases were of primary progressive nasal pterygium [13].

Nasal pterygium is common as explained by Sarkar P *et al*. in his study, it is due to the normal flow of tears is from temporal to nasal side towards puncti and carries dust particles of the conjunctival sac and accumulates it on sulcus lacrimals. These concentrated dust particles may cause greater irritation of nasal conjunctiva [14].

There are 2 anterior ciliary arteries on the nasal side and only one on the temporal side. It is considered that due to this fact, any irritant will lead to greater hyperaemia on the nasal side and results in pterygium on nasal side.

Longer temporal upper lid eyelashes and outer two third bowing of these lashes filtering light falling on temporal conjunctiva and cornea.

Light passes through the cornea medially, concentrating on the nasal limbus region, while the nose shadow decreases the strength of light transmitted to the temporal limbus.

In our study, majority of the pterygia were of grade 2 (83.3%), among them 1 patient had cystic grade 2 pterygium, least were of grade 1 (10%) and grade 3 (6.7%).

In study conducted by Sushobhan Dasgupta *et al*. among 60 patients, majority were of grade 2 pterygium in 34 patients (56.67%), 1 patient (3.33%) of grade 2 had cystic pterygium, grade 3 were of 19 cases (31.67%), grade 1 in 7 patients (11.67%) [7].

Conclusion

- Majority were in the age group of 31-40 years, 9 cases (30%).
- Most of them were Females, 23 cases (76.7%).
- Majority were outdoor workers, farmers (10 cases, 33.33%), labourers (8 cases, 26.67%).
- All cases were of nasal primary pterygium with unilateral and right eye involvement in 19 cases (63.3%) and left eye involvement in 11 cases (36.7%).
- Majority of them were of grade 2 nasal primary pterygium, 1 patient had cystic pterygium.

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ISSN:0975 -3583,0976-2833 VOL13, ISSUE 05, 2022

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Accepted on 30/05/2022