International Journal of Innovative Research in Medical Science (IJIRMS)
Volume 02 Issue 05 May 2017, ISSN No. – 2455-8737
Available online at - www.ijirms.in

Open Access Journal | Research Article | DOI: 10.23958/ijirms/vol02-i05/07

A Study on Prevalence of Pterygium at Sree Mookambika Institute of Medical Sciences

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Abstract:

Background: *Pterygium is a triangular fold of conjunctiva over cornea. Pterygium is more common in elderly male doing outdoor work. Risk factors are increasing age, male gender, outdoor occupation with ultraviolet (UV) light exposure, rural residence, cigarette smoking and drinking alcohol.*

Objective: *Investigate the prevalence of pterygium and prevalence of its risk factors in a medical college hospital.*

Methodology: 67 patients were subjected to a cross sectional study by systematic random sampling with the participants of study being patients with pterygium coming to the ophthalmology OPD.

Results: *The prevalence of pterygium among the patients attending ophthalmology OPD is 9.2%. The sex based study shows that the prevalence of cataract is more among males. It is clear from the study that pterygium is more common among the persons doing outdoor work rather than indoor work.*

Keywords: ***Pterygium, males, outdoor work.***

Introduction

Pterygium means wing shape. It is triangular fold of conjunctiva over cornea. Actually pterygium is degenerative condition of subconjuctival tissue which proliferates as vascularized granulation tissue to invade the cornea destroying superficial layers of stroma and Bowmans membrane, the whole being covered by conjuctival epithelium1.

Pterygium is more common in elderly male doing outdoor work2. Pterygium cause corneal distortion and induce a significant amount of astigmatism3. Several population based studies have linked pterygium with risk factors like increasing age, male gender, outdoor occupation with ultraviolet (UV) light exposure, rural residence, lower education and low socioeconomic status, cigarette smoking and drinking alcohol4. For management of this condition, surgery is done like Bare sclera technique with or without mitomycin C, Conjunctival autograft, Amniotic membrane graft 5.

Objective:

1. To find the prevalence of pterygium on the basis of various aspects such as age group, sex and area of residency.
2. To find the prevalence of associated factors and co morbidities in the pterygium population.

Methodology:

The study design used for this study is cross sectional study and the study period is from May 2016 to April 2017. The study was done at Sree Mookambika Institute of Medical Sciences, Kulasekharam and done by the Department of Ophthalmology. The sampling technique used is systematic random sampling.

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Inclusion criteria:

Patients with cataract coming to the ophthalmology OPD.
Exclusion criteria: Patients not willing for study and Subjects with severe dry eye.
Sample size: $4PQ/d^2 = 67^{(2)}$.
Data was entered in MS Excel 2016 and Stastical analysis was done using SPSS trial version 20.
Institutional Ethical committee clearance obtained.

Result:

1. Prevalence of pterygium is 9.2%
2. Prevalence by age;
   a. 40 – 49 years: 11%
   b. 50 – 59 years: 18%
   c. 60 – 69 years: 14%
   d. 70 – 79 years: 16%
   e. Above 80 years: 14%
3. Prevalence by sex:
   a. Male: 55%
   b. Female: 45%
4. Prevalence by area of residency
   a. Rural: 81%
   b. Urban: 20%
5. Prevalence by work
   a. Outdoor occupation: 70%
   b. Indoor occupation: 30%
6. Position of the pterygium:
   a. Nasal: 96%
   b. Temporal: 2%
   c. Both: 2%
7. Eye involved:
   a. Unilateral: 68%
   b. Bilateral: 32%
8. Percentage of Patients using spectacles or hats while working or going into sunlight:
   a. Used: 11%
   b. Not used: 89%
9. Astigmatism among the pterygium population:
   a. Present: 68%
   b. Not present: 32%
10. Smoking history:
    a. Present: 28%
    b. Absent: 68%
11. Alcohol history:
    a. Present: 40%
    b. Absent: 60%
12. Hypertension among pterygium population:
    a. Present: 11.5%
    b. Absent: 88.5%
13. Diabetes mellitus in the pterygium population:
    a. Present: 3%
    b. Absent: 97%

Discussion:

The Prevalence of Pterygium in this study is 9.2% while it is 9.5% in Maramulla[6] et al., and 12.9% in Nangia[7] et al. the prevalence among the age group between 40 – 49 years is 11% while it is 18%,16%,14%,14% among the age groups of 50-59,60-69,70-79,>80 years respectively while the same is 6.7%,11%,18%,21%,13% in the age groups of 40-49,50-59,60-69,70-79,>80 years respectively in Nangia et al[7].

The percentage is higher among the males which may be contributed by the increased duration of outdoor hours spent by males and it is 55% in this study, while in the study Chavan[2] et al. 62%. Prevalence is also higher in the rural population which is 80% in this study, while it is 72% in the Rohatgi[5] et al., and 81% in the Nangia[7] et al.

The occurance of Pterygium is more among the people working outdoors in the sun and the prevalence among the Pterygium group it is 70% in the current study while it is 82% in Chavan[2] et al and 70% in the Maramulla[6] et al.

The occurance of Pterygium in the nasal side is 96% in this study while it is 98% in shrestha[4] et al,. The Pterygium involves both the eyes in 36% of the individuals with Pterygium in this study while the rate is 38% in Chavan[2] et al and 41% in singapore malay eye study[12].

Only about 11% of people gives history of wearing protective gadgets like hats or spectacles while going into or working under sunlight, the rate is 13% in Maramulla et al and 16% in Rohatgi[5] et al,.

About 28% of Pterygium population gives history of smoking and 40% gives history of alcohol intake which is 35.7% and 51.3% in Maramulla et al and 27.9% and 28.3% in Wanzhen[8] et al

11.5% of Pterygium population are hypertensive while 2% is diabetic in this study while in Maramulla[5] et al., 5.8% are hypertensive and 2 % are diabetics.

Conclusion:

From this study it is learnt that the prevalence of pterygium is more among the males which may be attributed towards the increased duration of sunlight exposure and the prevalence is more in the the age groups 40-59 years there after it declines. The percentage is very high among the people working in the outdoor environment and the pterygium commonly arise in the nasal side of the eyes.

Limitations: This is a hospital based study and cannot be generalized.

Recommendations:

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1. Study involving multiple medical college hospitals should be conducted.
2. Study should be conducted in general population.

Conflict of Interest: Nil

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