



TO DETERMINE THE PREVALENCE AND OCCURANCE OF VISUAL MORBIDITY IN PATIENTS OF PTERYGIUM ATTENDING EYE OPD IN A TERTIARY CARE CENTRE OF EASTERN INDIA

Ophthalmology

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ABSTRACT

To determine the prevalence and occurrence of visual morbidity in patients of pterygium attending eye opd in a tertiary care centre of Bihar.

Methods: In this observational study a total of 193 patients, diagnosed with pterygium, underwent complete ocular examination by an ophthalmologist. Epidemiological trends including age, sex, occupation, effect of living condition and socioeconomic status were analyzed.

Results: There is a male preponderance of 58.03%. The age incidence of the group showed that the incidence of pterygium was 10.36% in the age group of less than 30 years. It rises to a maximum of 29.53% in the age of 41-50 years and then gradually declines. The incidence was found to be maximum among farmers (39.86%) followed by miners (31%). **Conclusion:** People who work outdoors are at a greater risk because they are subjected to involuntary UVB exposure. The highest exposure occurs during the two hours on either side of noon. Workers must be aware and should take appropriate measures like wearing protective glasses, caps, etc.

KEYWORDS

Pterygium; Pterygium belt; Fibro vascular growth; Prevalence of pterygium

INTRODUCTION

Pterygium results from abnormal growth of fibrovascular tissue of the bulbar conjunctiva that is spread over the cornea chronically⁽¹⁾. In addition to cosmetic problem pterygium also causes corneal astigmatism and rarely sometimes results in visual impairment by encroaching the visual axis, requiring surgery⁽²⁾. Pterygium is most prevalent in tropical regions because it is associated with a wide spectrum of factors like sun and UV light⁽³⁾. Furthermore, pterygium is associated with factors like age, sex, ethnicity⁽⁴⁾ and environmental conditions like outdoor occupations⁽⁵⁾. Prevalence of pterygium has been reported to be from 1.2% to about 40% in different parts of the world^(6,7). Many Asian countries are in the "pterygium belt", located between 37° north and south of equator. Hence, numerous countries have mentioned pterygium as one of the common chronic eye disease in Asia and other countries located in this belt⁽⁸⁾. One of the determinants of prevalence of pterygium is living in rural areas⁽⁹⁾. The risk of pterygium in rural areas is due to lifestyles and environmental conditions and also limited access to health services.

AIM: To determine the prevalence and occurrence of visual morbidity in patients of pterygium attending eye opd in a tertiary care centre of Eastern India.

MATERIALS AND METHOD: This Observational study was conducted amongst patients attending OPD of RIO, IGIMS, Patna between July 2016 to June 2019. An interview was conducted with each participant to collect demographic data including age, sex, and history of ocular surgery, education and occupation after which a thorough eye examination was performed including visual activity and refraction. A diagnosis of pterygium was made by ophthalmologist using slit-lamp biomicroscopy upon visualizing a triangular fibrovascular tissue that was attached to the underlying tissue growing onto the cornea. Follow up patients and those with history of pterygium surgery were excluded.

Statistical analysis: All the data were expressed in descriptive statistics and analyzed with the help of SPSS Version 20.0 (SPSS Inc., Chicago, IL, USA) and STATA V11.0. Statistical significance assessed with confidence interval (CI) 95% and P-value <0.05 was considered to indicate statistical significance.

OBSERVATIONS AND RESULTS: The incidence of pterygium was found to be 3.1% in the age group less than 10 years. It then rose to about 7.25% between 21-30 years age group and 25.90% between 31-40 years. Maximum incidence was seen in 41-50 years age group

(29.53%). There was a gradual decline in the incidence to about 21.76% in the age group 51-60 years followed by further fall to 5.3% in the age group 61-70 years and furthermore to 3.1% between 71-80 years (Fig1). There is a clear cut male preponderance of 58 % as compared to females (42%) (Fig2). Patients who were more exposed to sun light like farmers (39.76%) and miners (31%) were at an increased risk of developing pterygium. The incidence in the laterality (right eye/left eye) of pterygium followed no definite predilection. Most of the pterygium cases were seen on the nasal side. The present study outlines all the prominent epidemiological features involved in the occurrence of pterygium. Besides cosmetic problem, pterygium can cause diminution of vision.

Fig 1: Age Incidence (in years)

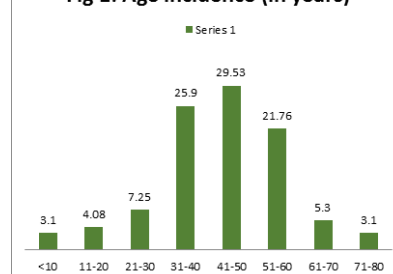
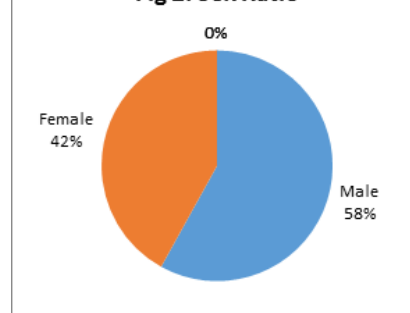


Fig 2: Sex Ratio



DISCUSSION:

In the present study maximum percentage of pterygium was noted in the age group 41-50 years (29.53%) but as per Michele Gerundo⁽¹⁰⁾ maximum percentage is noted in the age group 30-39 years. The

prevalence of pterygium gradually increases with age⁽¹¹⁾. Osahon et al⁽¹²⁾ in their study in Benin city found the peak prevalence rate to be in the age group 31-40 years and in this study the peak is in the age group 31-50 years and then there is a gradual fall. Mackenzie et al⁽¹³⁾ found that the risk of pterygium was increased in patients who are in their third decade of life, work outdoor in an environment with high surface reflectance compared with those who work indoors. It was seen from the study that males are affected more than females. Parthasarthy & Gupta⁽¹⁴⁾ also concluded that males suffered more than females. This higher incidence in males is attributed to the factors like more exposure to dust, wind, heat and sun. Thus, the chief factor in the etiology was exposure to atmospheric irritants leading to chronic irritation of conjunctiva. In this study, maximum number of affected population was farmers and miners. This confirms the role of hot climate, dry, dusty environment in the incidence of pterygium, farmers and miners are constantly exposed to these conditions. This correlates with the findings of Elliot⁽¹⁵⁾ & Talbot⁽¹⁶⁾. Higher incidence of pterygium on nasal side was due to flow of tears towards medial canthus carrying with it dust and sand particles towards nasal side. Nasal presentation being more common Archilla et al⁽¹⁷⁾ explained that due to transmission of UV light from temporal side of cornea through the stroma on the nasal aspect of eye, explains why these lesions are more common nasally.

CONCLUSION:

This study concludes that most of the cases of pterygium were seen in young and middle aged people with a male preponderance than in females. Pterygium was also significantly associated with occupational and outdoor activity workers due to environmental irritants and exposure to UVB radiation.

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