



## Features of Clinical Observations of Patients with Pterygium

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### Introduction

Pterygium is a degenerative disease of the conjunctiva of the eyeball, which in 60% to 70% leads to gross cosmetic imperfections, corneal opacity, induced corneal astigmatism [1,2]. Sometimes degeneration develops with prolonged inflammation of the conjunctiva; some researchers attribute pterygium to elastodysplasia or elastodystrophy [2,3].

Some authors associate the development of pterygium with a deficiency of limb stem cells and their morphological changes [4]. Pterygium is also a vasoproliferative disease of the conjunctiva, which is associated with the growth of fibrovascular tissue from the conjunctiva through the limbal area to the cornea, which over time can lead to a significant decrease in visual acuity. Given the prevalence of pterygium among patients of working age, this problem becomes a medical-social nature [5-7].

Factors such as ultraviolet radiation, immunological and inflammatory mechanisms are known to play a role in the pathogenesis of pterygium, but its etiology remains unexplored [8,9].

Conducting M.E. Cameron's global study of the incidence of pterygium has found a relationship between the prevalence and proximity to the equator - the "pterygium belt". In countries located at latitude 120, this level reaches 22% to 25%, compared to 2% in places above the 40<sup>th</sup> parallel [7]. Pterygium is twice as common in men and people whose profession involves a long stay on the street: farmers, rescuers, sailors. It is proved that the prevalence of this disease is highest in old age, but its debuts are more common between the ages of 20 and 40 [1].

The exact etiology of pterygium is unclear, but it is known that this condition is associated with the effects of infrared and ultraviolet rays on the surface of the eye [2]. Most often in clinical practice, ophthalmologists use a convenient classification according to Titarenko et al. in which the pterygium is divided into 5 stages depending on the topography of its location and visual functions [3].

I degree - initial, when an increase is observed only in the limbus, usually proceeds without a change in visual acuity or refraction.

II degree - the head of the pterygium is located in the middle of the distance between the limbus and the projection of the edge of a moderately dilated pupil. This stage is characterized by the appearance of irregular astigmatism in the area directly in front of the head of the pterygium, and in the optical zone, correct astigmatism of a small degree is detected. Visual acuity can be reduced to 0.9 to 0.7.

III degree - the head of the pterygium is located on the cornea at the edge of the projection of the usual pupil diameter, astigmatism due to the flattening of the horizontal meridian of the cornea reaches 1-3 diopters, visual acuity may decrease to 0.5.

IV degree - the head reaches the center of the cornea (projection of the center of the pupil), significantly pronounced irregular or correct astigmatism prevails (2.5–7.5 diopters). Visual acuity is reduced to 0.3 to 0.2.

V degree - the head of the pterygium extends beyond the center of the cornea and may spread further along with the cornea. In this case, refraction cannot be determined, visual acuity is below 0.1 [3].

Despite a number of new methods developed for the treatment and surgery of recurrent pterygium, there is still no proper confidence for the surgeon that in this particular case the pterygium no longer recurs [10-12].

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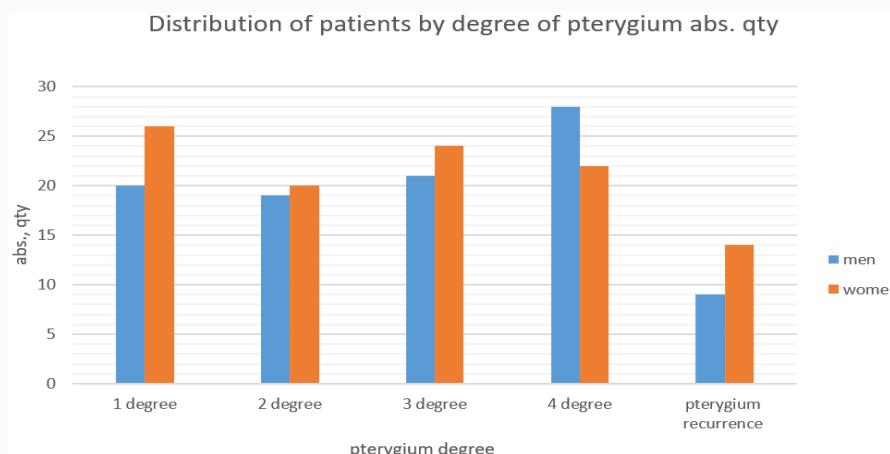
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**Figure 1:** Distribution of patients by degree of pterygium abs. qty.

## Objective

To study the features of the clinical manifestations of pterygium in Mykolaiv's citizens and the region.

## Material and Methods

The analysis of the results of an ophthalmological examination of 203 patients who applied to the clinic of the CNE "Regional Ophthalmological Clinic" of the Mykolaiv Regional Hospital in Mykolaiv city in the period from 2019 to 2021. Of the 203 patients, pterygium I degree was detected in 46 patients, in 39 patients - II - III degree, 45 patients had III degree, 50 patients had IV degree, and 23 patients had recurrent pterygium (Figure 1).

From the anamnesis is aware that patients with recurrent pterygium underwent previous surgical interventions for primary pterygium according to the methods of McReynolds and Arlt.

Ophthalmological examination of patients included traditional methods, such as determining visual acuity, biomicroscopy, refractometry, ophthalmometry.

## Research of the Study

From the anamnesis data, it was found that the majority of patients - 138 (67.9%) - were permanent residents of rural areas, the number of city dwellers accounted for 65 (32.1%) people. The examined patients were 110 men (54.1%) and 93 women (45.9%). At the same time, pterygium in one eye occurred in 85% of cases and was bilateral in 15%. It should be noted that among patients, people of able-bodied, socially active age predominate: From 31 to 50 years old - 41.7% and from 51 to 65 years old - 50%. In 2019, pterygium was diagnosed in 54 patients, in 2020 - in 62 patients, and in 2021 - in 87 patients.

The duration of pterygium disease in the applied patients recurred and was observed up to 2 years in 22 (10%) patients. At the same time, they had an I-II degree of severity of the disease. From 2 to 5 years, pterygium was observed in 60 (30%) patients. At the same time, they had an II-III degree of severity of the disease. For more than 5 years pterygium was observed in 121 (60%) patients. At the same time, they had III-IV severity of diseases (Table 1).

In 23 patients, disease relapse after surgical removal came up occurred in 11.3% of cases. In all cases, the disease was one-sided.

**Table 1:** Distribution of patients with pterygium by stages and duration of the disease (abs. qty/%).

Pterygium stage	Duration of disease.		
	Up to 2 years	2 to 5 years	From 5 years
I-II	22/10	-	-
II-III	-	60/30	-
III-IV	-	-	121/60

**Table 2:** Distribution of patients with pterygium by stages and duration of the disease (abs. qty/%).

Pterygium stage	Number of relapses		
	1	2	3 and more
I-II	-	-	-
III-IV	12/52.3	7/30.4	4/17.3

Recurrence of the disease was noted once after operations on 12 eyes (52.3%). The recurrence of the disease occurred twice after operations on 7 eyes (30.4%). The recurrence of the disease occurred after three or more operations on 4 eyes (17.3%) (Table 2). Moreover, from the anamnesis, it is known that all these patients initially had pterygium III-IV severity.

## Conclusion

According to our study, no difference was found in the occurrence of pterygium among men and women, but more often they were residents of rural areas.

The severity of pterygium according to our observation depends on the duration of the disease - III-IV degree was observed in patients with follow-up periods of more than 5 years.

The main criterion for the effectiveness of surgical treatment of pterygium is the prevention of recurrence of the disease, which, according to our study, is 11.3% in the examined patients.

Recurrence of pterygium according to observations of patients who were operated on with III-IV acuteness of the disease.

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