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Original Research

Assessment of pterygium operated with conjunctival autograft

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***ABSTRACT*:**

Background: Pterygium is a degenerative condition of the subconjunctival tissue which proliferates as vascularized granulation tissue to invade cornea, destroying superficial layers of stroma and Bowman's membrane, the whole being covered by conjunctival epithelium. The present study was conducted to assess cases of pterygium operated with conjunctival autograft and fibrin glue. **Materials & Methods:** 68 patients of pterygium of both genders underwent surgical operation was conjunctival autograft with fibrin glue. Routine follow-up time was performed in all cases. **Results:** Out of 68 patients, males were 48 and females were 40. Grade I was seen in 15 patients, grade 2 in 25, grade 3 in 20 and grade 4 in 8 patients. The recurrence rate was 0 with grade I, 2 with grade 2, 1 with grade 3 and 2 with grade 4. The difference was significant (P< 0.05). **Conclusion:** Pterygium management with conjunctival autograft is an easy, economical, very simple procedure.

Key words: Conjunctival autograft, Eye, Pterygium

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INTRODUCTION

Pterygium, a word derived from "pterygion" (ancient Greek for wing), is a wing-shaped, fibrovascular overgrowth arising from subconjunctival tissue extending across the limbus onto the cornea. It is a degenerative condition of the subconjunctival tissue which proliferates as vascularized granulation tissue to invade cornea, destroying superficial layers of stroma and Bowman's membrane, the whole being covered by conjunctival epithelium.

It is commonly seen in tropical and subtropical areas between the latitudes 30 degree north and south of the equator which includes India. It is caused by increased light exposure, dust, dryness, heat and wind. The cornea must be clear to let the light get into the eye and the visual process begins. When the cornea loses its transparency, the sight could be severely affected, as happens when pterygium grows and covers the pupillary axis. Patients with pterygium consult physicians because of discomfort, ocular surface inflammation, red eyes, (aesthetic reasons) or finally, when their vision is decreased.[1]

Pterygium excision performed with conjunctival autografting seems to be the best surgical procedure in order to reduce recurrence rates with fewer complications. The chances to perform a surgery using biological adhesive, decreases the operation time and increases patient satisfaction.[4] The present study was conducted to assess cases of pterygium operated with conjunctival autograft and fibrin glue.

MATERIALS & METHODS

The present study was conducted among 68 patients of pterygium of both genders in the department of Ophthalmology. All were well informed regarding the study and written consent was obtained.

Data such as name, age, gender etc. was recorded. The surgical operation was conjunctival autograft with fibrin glue. Pterygium was graded in four stages, grade 1 (less than 2.0 mm), grade 2 (2.0 mm - 4.0 mm), grade 3 (higher than 4.00 mm, without covering the visual axis) and grade 4 (tissue covering the visual axis). Routine follow-up time

was performed in all cases. Results were subjected to statistical analysis. P value less than 0.05 was considered significant.

RESULTS

Table I, graph I shows that out of 68 patients, males were 48 and females were 40.

Table I Distribution of patients

Total- 68		
Gender	**Males**	**Females**
Number	48	40

Graph I Distribution of patients

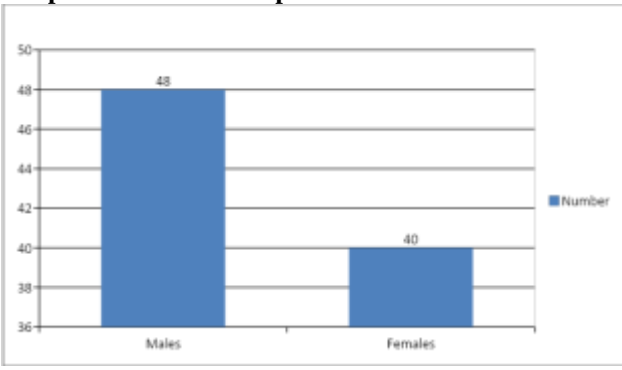

Table II Assessment of pterygium grade

Grade	Number	P value
1	15	0.02
2	25	
3	20	
4	8	

Table II, graph II shows that grade I was seen in 15 patients, grade 2 in 25, grade 3 in 20 and grade 4 in 8 patients. The difference was significant (P< 0.05).

Graph I Assessment of pterygium grade

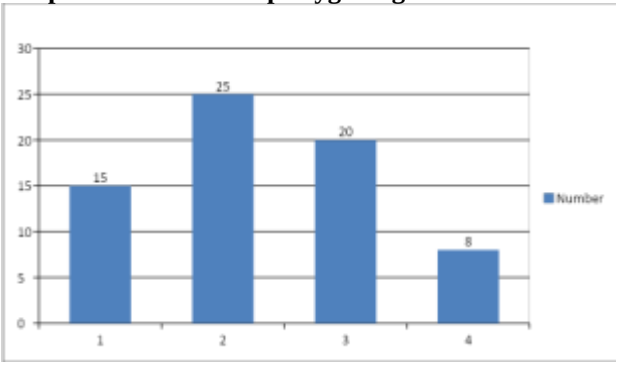

Table III shows that recurrence rate was 0 with grade I, 2 with grade 2, 1 with grade 3 and 2 with grade 4. The difference was significant (P< 0.05).

Table III Assessment of recurrence rate

Grade	Recurrence	P value
1	0	0.03
2	2	
3	1	
4	2	

DISCUSSION

Pterygium is an old challenge for ophthalmic surgeons. Among all the various techniques limbal conjunctival autograft is the best method because of low recurrence and high safety.[7] The prevalence rate of primary pterygium varies from 0.7% to 31% in various populations around the world. Working outdoors increases the risk 1.5-fold.[8] Although exact etiology is not known, risk factors include genetic predisposition, chronic environmental irritations such as dust, dryness, heat, and ultraviolet rays. A pterygium is generally managed conservatively unless it is progressing toward the pupillary area causing excessive astigmatism, resulting in decreased vision. The reported rates of recurrence are 25%–45% after simple excision of primary pterygium. The high rates of the recurrence have been explained by the theory of corneal limbal stem cell deficiency.[9] The present study was conducted to assess cases of pterygium operated with conjunctival autograft and fibrin glue.

In present study, out of 68 patients, males were 48 and females were 40. Grade I was seen in 15 patients, grade 2 in 25, grade 3 in 20 and grade 4 in 8 patients. Kumar et al[10] in their sixty patients with primary pterygium were included in the study and divided into three groups. In Group I, autograft was attached in place with help of 10-0 polyamide monofilament suture; in Group II, with autologous blood; and in Group III, with fibrin glue. All three groups were compared in terms of surgical time, postoperative discomfort, and recurrence. The average surgical time taken was least with fibrin glue group (Group III), i.e., 36.2 min, followed by 44.8 min with autologous blood group (Group II) and maximum of 53.3 min with suture group (Group I). Postoperative discomfort was seen maximum in the suture group (Group I) and was minimal in the fibrin glue group (Group III). At the end of final follow-up at 6 months, one case of recurrence was seen in both Group I and Group II. No recurrence was seen in Group III. We found that the recurrence rate was 0 with grade I, 2 with grade 2, 1 with grade 3 and 2 with grade 4. Daponte et al[11] in their retrospective case-series study reviewed cases operated with 1 year of follow-up. The evaluation time-points were at 1 day, 20 days, 6 months, 1 year after surgery and then every year. All the procedures were performed by the same surgeon in a single center. Topical

Mitomycin C (MMC), 5- Fluorouracil (5-FU), cauterization and/or amniotic membrane were not used in any case. From a total of 159 operated eyes (82/77 women/men), pterygium recurred in 7 eyes (4.4%); all of them detected at the second follow-up time-point (at day 20). Intraoperative complications did not occur, but at the postoperative stage, one case presented as conjunctival granuloma, which was surgically resolved. In conclusion, a low pterygium recurrence rate was observed after conjunctival autograft with fibrin glue.

Koranyi et al[12] compared 7/0 vicryl suture to fibrin glue in their study. They assessed postoperative patient complaints and operation time. They found that patient discomfort was less and operation time was shorter in fibrin glue group. In addition, they reported that the cost of one fibrin glue was equal to the cost of five sutures and one fibrin glue can be used for 6–7 patients, making the overall cost of surgery same for both the Group.

CONCLUSION

Author found that Pterygium management with conjunctival autograft is an easy, economical, very simple procedure.

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