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Comparison between Sutured and Sutureless Pressure Technique of Conjunctival Limbal Autograft in Pterygium Surgery

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Abstract: ***Aim: To compare the outcome of sutured and sutureless pressure technique of conjunctival limbal autograft in Pterygium surgery. Methods: Clinical trial was carried out in 24 patients with primary pterygium grade 2. Group A (12 patients): - Autograft with 10-0 ethilon sutures. Group B (12 patients): - Sutureless autograft placed in-situ with pressure technique. Condition of graft and patients discomfort assessed using visual analogue scale on post operative day 1. Results: No significant difference in post operative discomfort was found between 2 groups in both the techniques. (P<0.01), 4 out of 12 in sutureless pressure technique – graft were displaced post operatively, All grafts in-situ in sutured graft technique. Conclusion: Technique with sutures is better than the sutureless pressure technique; though post operative discomfort is not significantly different.***

Keywords: Pterygium, Conjunctival limbal autograft, sutureless autograft, sutured autograft

1. Introduction

Pterygium is defined as a degenerative ocular surface disorder with wing-shaped fibrovascular growth of the subconjunctival tissue onto the cornea. The name is derived from Greek word "Pteryggion" which means "wing". It has worldwide distribution but is more common in warm and dry climates. Prevalence in India is 9.5 %. Localized limbal stem cell deficiency is thought as a causative factor for pterygium formation. It is predisposed by exposure to dust and ultraviolet rays.

A small pterygium causes only slight irritation, cosmetic blemish, and slight heaviness or redness in the eyes but if gets advanced it can cause impairment of vision. Once it invades the cornea, it causes corneal opacity. A number of surgical techniques have been described as methods for management of pterygium. Limbal conjunctival autograft is currently the most popular surgical procedure. The most common method of autograft fixation is suturing. But it has its own drawbacks like increased operating time, postoperative discomfort, inflammation, buttonholes, necrosis, giant papillary conjunctivitis, scaring and granuloma formation. Sutureless and glue-free conjunctival autograft is a new, easy and cheaper technique for the management of Pterygium. A comparative study can throw light on the two techniques simultaneously comparing their merits and demerits; hence the current study was undertaken.

2. Aim

To compare the outcome of sutured and sutureless pressure technique of conjunctival limbal autografting in management of Pterygium surgery.

3. Materials and Methods

This prospective interventional case study included consecutive 50 eyes with primary nasal pterygium requiring surgical excision. Patients were randomized using random table number method and two groups were formed with 25 eyes in each group.

a) Sutureless and glue-free technique - Group 1
b) Interrupted 10-0 nylon sutures – Group 2

Inclusion criteria

Patients of all ages and of either sex presenting with primary nasal pterygium Temporal pterygium was not included as it is very rare.

Exclusion criteria

Recurrent pterygium, glaucoma, retinal pathology requiring surgical intervention, history of previous ocular surgery or trauma.

4. Surgical Technique

In group 1, the graft was placed on bare sclera and positioned so as to maintain the limbus-limbus orientation. The graft was kept apposed to the scleral bed for 10 minutes by applying gentle pressure with fine non-toothed forceps. During small bleed in the scleral bed, there is always a small ooze of the serum which acts as adhesive. Large bleed lifts the graft from scleral bed with subsequent complications, and should be tamponade before placing the graft.

In group 2, the corners of the graft were anchored with episcleral bites to maintain the position of the graft with interrupted 10-0 nylon sutures. In both the groups, the eye was bandaged for 24 hours. Topical antibiotic-steroid eye drops along with topical lubricants were given. Sutures were removed 2 weeks later.

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5. Results

Patients were followed up postoperatively on 2nd day, 1 week, 2 weeks, 4 weeks, 3 months.

Table 1: Demographic profile of the study population

Demographic Data	Group 1 (n = 25)	Group 2 (n = 25)
Range of age in (years) Mean age in (years)	25-75 42.65 ± 15.34	25-75 43.77 ± 16.81
Sex Males Females	 12 13	 13 12
Laterality Right Left	 11 14	 12 13
Site of pterygium	Nasal (100 %)	Nasal (100 %)

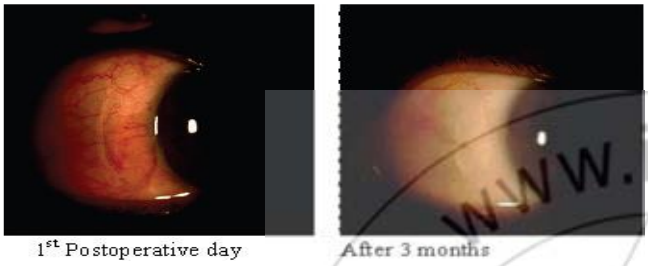

Figure 1: Sutureless graft

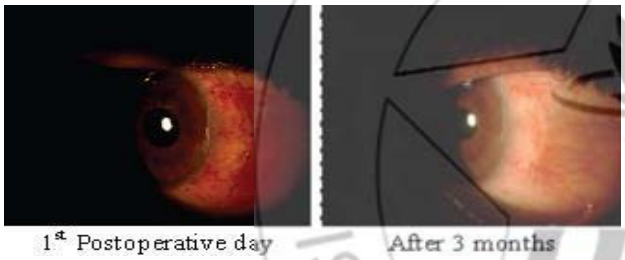

Figure 2: Sutured graft

Table 2: Comparison between two groups

	Group 1	Group 2	p- Value
Average Surgical Time (In Minutes)	23.20 ± 1.55	37.76 ± 1.89	= 0.001
Complications Rate			
Postoperative symptoms	5 (20%)	20 (80%)	<0.002
Duration of symptoms (in wks.)	2	4	<0.001
Graft oedema	2 (8%)	3 (12%)	NS
Conjunctival granuloma	0 (0%)	1 (4%)	NS
Recurrence rate	0 (0%)	1 (4%)	NS

6. Conclusion

Sutureless and glue-free limbal conjunctival autografting is a new novel technique for the treatment of primary pterygium. Not only the surgcal time required is less but also the complications encountered are fewer than suturing technique. Moreover, the feasibility and absence of cost factor, tedious suturing process and potential adverse reactions encountered with the use of foreign material make it superior to suturing.

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