

**RETROSPECTIVE STUDY OF FIBRIN GLUE VERSUS SUTURES FOR
CONJUNCTIVAL AUTOGRAFT IN PTERYGIUM SURGERY**

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ABSTRACT

Pterygium is old challenge for ophthalmic surgeon. It is best left alone unless it is progressing towards pupillary area, causing excessive astigmatism, restriction of ocular mortality. Surgery being the final treatment for pterygium and hence the new surgical techniques where evolved. The purpose of this study was to compare the Graft stability, recurrence rate, surgical outcome with fibrin glue and sutures for conjunctival autograft in pterygium surgery. Retrospective study was performed of 54 patients, operated for pterygium with limbal Conjunctival autograft in a period of 2 year. The follow up of patients was at 1st day, 15 day, one month and 6month after the surgery. Based on surgical technique used to fix the graft patients where divided into 2

groups. In group A 10-0 VICRYL suture technique was used to fix the graft in 33 patients and in group B fibrin glue was used to fix the graft in 21 patients Patient with minimum follow up of 6 month are included in the study and main outcome measures were patient comfort, graft success, complication and recurrence of pterygium. Topical mitomycin C, cauterization and amniotic membrane where not used in any case. From total 54 operated eyes, 31 were women (57.41%) 23 were men (42.59%), recurrence was found in 3 eyes (5.55%) detected at 1-6 month follow up, intra operative complications were not found.

INTRODUCTION

A degenerative condition of the subconjunctival tissues which proliferate as vascularized granulation tissue to invade cornea, destroying its superficial layers is pterygium. When

pterygium grows and covers the pupillary axis, vision is severely affected. Patient with pterygium consult physician because of discomfort, ocular surface inflammation, red eyes or finally when their vision is decreased however final treatment for pterygium is surgery.

It seems to be easy but usually it's complexity is underestimated. To reduce recurrence rate with few complication, pterygium excision with conjunctival autograft was performed.

Patient feels pain during and after the procedure, the conjunctiva bleeds and with traditional technique several conjunctival suture must be performed and most frustrating situation is when pterygium recurs. As it is an old challenge for surgeons, therefore new surgical technique have been introduced to improve the result which being use of biological adhesive. However the possibility of recurrence always exist.

MATERIALS AND METHOD

Surgical records of 54 patients operated for pterygium with limbal conjunctival Autograft are revived retrospectively from a period of 2 year.

All the patients with primary nasal pterygium were taken irrespective of gender, socioeconomic status and chronicity.

Patients were from age group 20 - 50 yrs.

Patient having any other known ocular pathology were excluded.

Patient using any other systemic drug which may alter the result of study were excluded. Injuries i.e. mechanical, chemical etc. were excluded.

Surgical Technique

A written consent was taken from the patient and operated under local anaesthesia xylocain 2% in peri orbital space with topical anaesthesia.

Pterygium head was evulsed using tooth force and was separated from cornea and wound bed. Scraping of corneal surface and wound bed to remove car tissue where performed by Crescent knife the body of pterygium was desected and excise.

Conjunctival Autograph with over size of 1 mm in its length and breadth relative to bare sclera was harvested from superior Temporal region. Care was taken not to include Tenons

capsules in graft. with epithelium side facing upward and limbal edge of graft aline to nasal limbus, cautery was not used in any patient. Group A 10-0 vicryl stitches where used to fix the graft to conjunctiva at recipients site nearly 5 to 10 sutures according to the size of graft where needed. In group B fibrine glue was used to fix the graft.

[biological adhesive kit was used, reconstituted as advised in reference booklet. step one aprotin is injected in fibrinogen vial, stored at 37 degree celsius temperature for 10 minute. step 2- water injected into thrombin vial. step 3 both these constituents are aspirated into separate two cc syringes with 21G needle avoiding double injector system].

Donor graft was inverted and placed over cornea and receptor zone was dried with cotton tip application. From these two separate constituents one was applied on under surface of graft and other on the sclera separately taking care not to mix them with each other before pasting the graft. The graft was pasted in a bed sheet manure at recipient site with epithelial side face up and limbal eage of graft attached to nasal limbus the graft was quickly smooth out with non tooth forces as this technique gives us extra time to adjust graft before two solutions could come in contact with each other and seal the wound. one minute is required to wait until both tissues stick together completely. then patient was asked to blink several time to confirm the graft adherence. At the End of procedure antibiotics steroid combination eye ointment was placed on all eyes and where patched.

Study design and grading-

Observation	Criteria	Gradation
Graft presence	AbsentPresent	0 +1
Observation	Criteria	Gradation
Foreign body	Absent	0
sensation	Non continuous,tolerabl	+1
	Continuous, tolerable	+2
	Continuous,Intolerable	+3
Observation	Criteria	Gradation
Watering	Absent	0
	Non-continuous,but present	+1
	Continuous	+2
Observation	Criteria	Gradation
Lid edema	Absent	0
	Present	+1
Observation	Criteria	Gradation
New growth over cornea	Absent	0
	Present	+1

RESULT**Table 1: Shows distribution of patients of groups.**

Group	No of Patients	%
Group A	33	61.11
Group B	21	38.89
Total	54	100

Table 2: Shows Age wise distribution in both groups.

Sr. No.	No of Patients			Total	%
	Age (Yr)	Group A	Group B		
1	20-30	9	9	18	33.33%
2	30-40	10	5	15	27.78%
3	40-50	14	7	21	38.89%
	Total	33	21	54	100

Table 3: Shows Gender wise distribution in both groups.

Sr. No.	No of Patients			Total	%
	Gender	Group A	Group B		
1	Male	9	14	23	42.59%
2	Female	24	7	31	57.41%
	Total	33	21	54	100

Table 4: Shows Graft Stability in Group A and Group B.

No. of Patients					Total
Graft presence	Group A		Group B		
	Present	absent	Present	absent	
Day 1	33	0	21	0	54
Day 15	33	0	21	0	54
Day 30	33	0	21	0	54

Table 5: shows patient with Lid edema.

No. of Patients with Lid edema					Total
	Group A		Group B		
	present	absent	Present	absent	
Day 1	28	5	11	10	54
Day 15	12	21	2	19	54
Day 30	0	33	0	21	54

Table 6: Shows patient comfort in Group A and Group B.

Grade	No. of Patients WITH F.B Sensation					
	Group A			Group B		
	1 st	15 th	30 th	1 st	15 th	30 th
Grade 3	3	0	0	0	0	0
Grade 2	17	5	2	7	0	0
Grade 1	13	19	15	14	12	2
Grade 0	0	9	16	0	9	19
Total	33	33	33	21	21	21

Table 7: Shows Watering in Group A and Group B.

Grade	No. of Patients with Watering					
	Group A			Group B		
	1 st	15 th	30 th	1 st	15 th	30 th
Grade 2	16	5	0	6	0	0
Grade 1	18	25	7	15	9	1
Grade 0	0	3	26	0	12	20
Total	33	33	33	21	21	21

Table 8: shows patient with recurrence.

No. of Patients with recurrence					Total
	Group A		Group B		
	present	absent	Present	absent	
Day 1	0	33	0	21	54
Day 30	0	33	0	21	54
6 th month	2	31	1	20	54

CONCLUSION

conjunctival graft secured with fibrine glue where as stable as those secured with suture. No patient in any group had graft dehiscence.

Group A had recurrence in 2 (6.06%) case where as group B had recurrence in 1(4.76%) case overall recurrence rate in studying was 5.55%.

Both group had discomfort, watering, lid edema, of varying degree. Sign and symptom where more pronounced in group A then in group B due to irritation caused by vicryl suture. Patient comfort was significantly higher in fibrine glue group then vicryl suture group.

One patient from group A had granuloma which was surgically treated. Patient where free from other major complications such as scleral necrosis, suture related infections.

Fibrin glue technique is less time consuming than suturing a conjunctival graft. suturing takes 15 to 20 minute while gluing takes only 5 minutes. Glue is much expensive since 0.5 ml glue suffice for 3 cases while one vicryl suture can be used for 2 cases.

Low recurrence rate was observed after Autograph with glue along with high patient comfort.