



Pterygium Excision and Conjunctival Autografting without Sutures/Glue

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Abstract

Objective: To evaluate the outcome of the pterygium excision and sutureless conjunctival autografting using patients own blood as a Bioadhesive.

Methods: Hospital based prospective study conducted in KIMS hospital Bengaluru from July 2016 to April 2017. 36 patients with primary nasal pterygium underwent pterygium excision with conjunctival autografting using their own blood. A detailed post-operative Evaluation was done.

Results: A total of 36 primary pterygium cases were included in the study. The mean operation time was 16+/- minutes. Out of 36 eyes 4(11.1%) had subconjunctival haemorrhage and 2(5.5%) had graft recession and oedema after 24hrs of operation. At 10 weeks follow up 2 cases (5.5%) of graft recession and no case of recurrence of pterygium was found.

Conclusion: pterygium excision and conjunctival autografting using patients own blood appears to be a affective alternative with no additional cost.

Keywords: pterygium, autografting, bioadhesive.

Introduction

Pterygium is a Fibro elastotic degeneration of the conjunctiva^[1]. causes of pterygium are believed to be Exposure of Ultraviolet radiation and accumulation of Debris in the eye in medial side causing chronic irritation^[2]. Various surgical procedures available are Bare sclera, Mitomycin-c application after Bare sclera, amniotic membrane grafting or autografting. In conjunctival autografting the conjunctival graft is sutured to the scleral bed with sutures, but here we are placing the graft with oozed blood still present and allowed it to coagulate, this blood acts as a Bioadhesive and sets the graft in place^[3].

Materials Methods

A total of 36 Patients with Primary nasal pterygium and no associated ocular trauma were selected from rural camps and few who attended KIMS OPD. The study was conducted between July 2016 and April 2017.

Surgical Technique

All surgeries were done by a Single surgeon and under peribulbar anaesthesia, the pterygium head was carefully detached from cornea and reflected up and dissected and whole of the tissue was dissected out. No cautery was used and blood was allowed to Ooze out. Graft was taken from superotemporal conjunctiva of same eye or the opposite eye.the size of the graft was

1mm bigger than the bare area and it was kept in place and given mild pressure with a cotton bud for the next 5 minutes, so that the clot forms and sets the graft in place. eye speculum was removed carefully and eye was patched for the next 24 hours. all patients were prescribed OFLO DM eyedrops applied 5-6 times per day and one CMC 0.5% eyedrops applied 4 times per day.

Results

Out of 36 eyes,21 were right side eyes and 15 were left side eyes. there were 17 males and 19 females in the study with mean age of 50+/- 5 years. Mean operation time was 16+/- 1 minute. Patients were examined at 24 hours, 1,4, and 10 weeks for Graft recession, graft dislodgement and subconjunctival haemorrhage. In 36 eyes only 4(11.1%) had subconjunctival haemorrhage and only 2(5.5%) had graft recession after a span of 24 hours and only 2 eyes showed graft recession at the end of 10 weeks.

Table 1

Outcome (after 24 hours)	Complication rate (out of 36 eyes)
Graft dislodgement	0
Subconjunctival haemorrhage	4(11.1%)
Graft recession	2(5.5%)

Table 2

Outcome (after 10 weeks)	Complication rate (out of 36 eyes)
Graft dislodgement	0
Subconjunctival haemorrhage	0
Graft recession	2(5.5%)

Discussion

Over the years pterygium surgeries have evolved and we have seen recurrence rates from 2% to upto 88%. Surgical procedures like Bare sclera technique have shown recurrence rates from 26% to 88%. Application of Mitomycin-c on bare sclera have caused havoc like corneal perforation, scleral melt and recurrence rates upto 43%^[4]. Sometime around 1980s

Conjunctival autografting^[5] was introduced and is very effective till date. Here we use patients own conjunctiva as a graft with or without limbal cells and placed on bare sclera and sutured neatly to the sclera ,but this also showed recurrence rates upto 9% and sutured related irritation. Recently fibrin glue^[5,6] has been used instead of sutures to secure the graft but have chances of viral transmission especially Non-enveloped viruses like hepatitis-a and parvovirus B19.our technique of conjunctival autograft using patients own blood as Bioadhesive has reduced the mean surgical time, trauma to conjunctiva and overall recurrence rate.

Our study has few limitations like short follow up period of 10 months, the complication rates were almost equal to Fibrin glue method with sutures and the risk of graft retraction was similar to that done with sutures and fibrin glue^[7].

Conclusion

Our study gives us an edge on overall recurrence rate, reduces surgical time and Very Economical as compared to sutures or Glue techniques.

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