Original Article

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Pterygium Excision with Sutureless, Glueless Conjunctival Autografting: Our Experience.

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Abstract

Background: Pterygium is a wing shaped conjuctival encroachment onto the cornea generally situated on nasal side. *Aim:* To see the results of pterygium excision with sutureless glueless conjunctival autografting in urban and rural population of central India. *Study Design*: Prospective study. *Place and Duration of Study:* The Study was conducted in the Department of Ophthalmology, Chirayu Medical College and hospital for a period of two years from October 2014 to October 2016. *Material and method*: 150 cases of uncomplicated pterygia were examined and diagnosed with slit lamp. All nasal pterygia were included. Pterygium was excised and autologous conjunctival graft without suture or glue were performed. Grafts were taken from inferotemporal area. Follow up was done on 1st day, 7th day, 30th day and 6th month. *Result:* In our study 108 (72%) were Males and 42 (28%) were Females. Most the patients belonged to lower socioeconomic group and were outdoor workers. Majority of the pterygium examined were nasal Grade 1 was observed in 37 (25%) whereas grade 2 was seen in 98 (65%). The operation time was 15 to 20 minutes. There were 3 recurrences. Out of 150 patients 2 patients had graft loss and 5 patients had graft retraction. 90% of the patients were highly satisfied. *Conclusion:* No glue, no suture conjunctival grafting in pterygium surgery takes short surgical time, easy to perform excellent cosmetic outcome.

Keywords: Pterygium Surgery; Sutureless Glueless Conjunctival Autografting.

Introduction

Pterygium is basically degenerative as well as hyperplastic condition of conjunctiva. The subconjunctival tissue undergoes elastotic degeneration and proliferates as vascularized granular tissue under epithelium which ultimately encroaches cornea [1]. This process causes redness, irritation and visual disturbances by disrupting the normal smooth surface of cornea [2]. It is common in tropical countries where there is more exposure to heat, dust, wind. It may invade the cornea leading to corneal opacity [3]. Conjuctival grafts using autologous blood or sutures can be employed to avoid recurrence. Recent introduction of patient's own blood (autologous blood) for fixation of conjunctival flap has proven to be effective with good results. To help the graft adhere to the scleral bed commercially available fibrin glues from pooled human plasma is commonly used,but it carries a risk of transmissible diseases like hepatitis A and parvovirus [4,5]. To prevent this in our study we used autologous blood serum easy way to procure fibrin for graft adhesion.

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Materials And Methods

The present study was conducted at the Department of Ophthalmology Chirayu medical College and hospital Bhopal. A total number of 150 cases with pterygium classified as grade 1,2 and 3 were selected from out-patient department (OPD) for surgical intervention during the period of two years from October 2014 to October 2016. The following points were tabulated as under name, age, sex, address, occupation, history, general examination, local examination.

Inclusion criteria: Symptomatic patients more than

20 years of age and patients with compromised visual axis were included. Informed consent was taken from the patient before performing the surgery. *Surgical technique:* All cases underwent surgery under peribulbar anaesthesia with 2% xylocaine with adrenaline and 0.5% bupivacaine under all aseptic precaution. Pterygium mass was excised. The blood was allowed to form a clot over the bare sclera. Caliper was used to measure the size of the bare sclera. Conjunctival graft was taken from superotemporal bulbar conjunctiva. Graft size taken was 1mm more than the size of bare sclera. Limbal tissue was taken in the autograft . Conjunctival graft was placed over the bare sclera in proper anatomical orientation. A waiting period of 8-10 minute was allowed. Eye was patched for 16-18 hours. Patient was asked to asked to use moxifloxacin eye drop 4 times for 2 weeks, 1% prednisolone acetate eye drop 4 times a day tapering down each week for 4 weeks and lubricating eye drop 4 times for 1 month. Postoperative workup. Post operative followup was done for all cases on the 1st day, 7th day, 30th day and 6 months. They were examined for pain and discomfort, graft dislocation, graft retraction, cosmetic view and other post operative complications. Result of the study was expressed in terms of mean and percentages. Fischer exact test was used to test the stastical significance and p value less than 0.05 was considered statistically significant.

Observations

Table 1: Grades of Pterygium n-150

Grades of Pterygium	Percentage
1. Midway between limbus and pupil border	25% (37)
2. Extends up to pupil border	65% (98)
3. Crosses pupil	10% (15)

Table 2: Results of autologous blood for pterygium n-150

No of eyes	150
Location	nasal
Gender,M:F	108:42
Operation time	15-20min
Ocular discomfort	10 patients
Recurrence	03 patients
Graft loss	02 patients
Graft retraction	05 patients
Follow up	6 months

Table 3: Patient satisfaction 4-8 weeks n-150

Patient satisfaction grades	
0= Unsatisfied	Nil
1= Low satisfaction	Nil
2= Moderate satisfaction	10%
3= Highly satisfied	90%

Results

In our study 108 (72%) were Males and 42 (28%) were Females. Most the patients belonged to lower socioeconomic group and were outdoor workers. Majority of the pterygium examined were nasal Grade 1 was observed in 37 (25%). Whereas grade 2 was seen in 98 (65%). Out of 150 patients 2 had graft loss, 5 patients had graft retretraction and 3 patients had recurrence. All these patients were postoperatively observed for day 1, 7 and after 1 and 6 month.

Discussion

Pterygium is ocular surface disorder which is common in tropical areas. Pterygium is commonly seen in patients above 20 years with highest prevalence in more than 40 years of age. Male gender and high sun exposure are strong and independent factors related to development of pterygium. Majority of patients were in our study were outdoor workers like farmers, labourers. Nasal presentation being more common is seen due to transmission of UV light from temporal side of cornea through the stroma on to the nasal aspect of eye, perhaps explaining why these lesions are more common nasally. Various treatment modalities are available In order to reduce the incidence of recurrence variety of techniques, such as amniotic membrane graft conjunctival autograft, and limbal conjunctival transplant and use of fibrin glue have been tried [6,7]. Sutureless glueless conjunctival autografting in pterygium surgery is a simple technique with less surgical time. In this study approximately 15-20 minutes were required for each case. This noble technique is also less costly as no requirement of suture or glue. also according to Sridhar et al. there is no role of suture in wound healing and may traumatise adjacent tissue as well [8]. Our study was a non-randomised study performed among a small population with a relatively shorter period of follow up for 6 months. However, one article comparing four commonly used techniques for pterygium surgery reported mean time of any complication including recurrence was 4 months [9]. Plasma derived products such as fibrin glue may cause hypersensitivity reactions. To prevent this in our study we used autologous blood serum easy way to procure fibrin for graft adhesion [10]. In our study 5 cases of graft retraction were found on 7th day of followup. This was due to the contraction of the subconjuctival tissue in the process of scar formation. Graft loss was there in 2 patients. Till the 6th month of followup

only 3 patients had recurrence of pterygium. All the patients were happy and satisfied. The main disadvantage of the autologous blood is the risk of graft loss in the immediate postoperative period. Graft loss is usually seen in first 24 to 48 hours. One of the important advantages seen with autologous blood was that this procedure was cosmetically better, pain and foreign body sensation was less prominent in early post operative period as compared to autograft with sutures. In the current clinical settings of rural India, patients are difficult to follow-up for a long period of time due to various financial and logistical limitations which makes it difficult to assess true recurrence. In India, majority of the population resides in the rural area; hence more study needs to be done in the area.

Conclusion

In conclusion, the use of autologous blood for the attachment of conjunctival autografts in pterygium surgery is an effective procedure to reduce the risk of recurrences. Also Autologous blood in pterygium surgery is an economical alternative to fibrin glue. This technique not only shortens there operating surgical time but also delivers good results and can be a safe alternative to fibrin.

References

1. Gerstenblith, Adam T and Rabinowitz, Michael P. The Wills eye manual: office and emergency room diagnosis and treatment of eye disease. 6th edition, Wolters Kluwer Health/Lippincott Williams & Wilkins, Philadelphia, 2012.
2. Kunimoto, Derek Y, Kanitkar, Kunal D and Makar, Mary. The Wills eye manual: office and emergency room diagnosis and treatment of eye disease. 4th edition, Philadelphia: Lippincott Williams & Wilkins, 2004.
3. Allan BD, Short P, Crawford GJ, Barrett GD, Constable IJ. Pterygium excision with conjunctival autografting: an effective and safe technique. Br J Ophthalmol. 1993;77:698-701.
4. Chan SM, Boisjoly H. Advances in the use of adhesives in ophthalmology. Curr Opin Ophthalmol 2004;15:305-10.
5. Biedner B, Rosenthal G. Conjunctival closure in strabismus surgery: Vicryl.
6. Tananuvat N, Martin T. The results of amniotic membrane transplantation for primary pterygium compared with conjunctival autograft. Cornea 2004;23:458-63.
7. Prabhasawat P, Barton K, Burkett G, et al. Comparison of conjunctiva lautografts, amniotic membrane grafts, and primary closure for pterygium excision. Ophthalmology 1997;104:974-85.
8. Sridhar MS, Bansal A K, Rao GN. Surgically induced necrotizing scleritis after pterygium excision and conjunctivalautograft. Cornea 2002;21:305.
9. Alpay A, Ugurbas S H, Erdogan B. Comparing techniques for pterygium surgery. Clin Ophthalmol 2009;3:69-74.
10. Singh PK, Singh S, Vyas C, Singh M. Conjuctival autografting without fibrin glue or sutures for pterygium surgery. Cornea 2013;32:104-7.