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# CONJUNCTIVAL AUTOGRAFT WITH AUTOLOGOUS BLOOD IN PTERYGIUM SURGERY

**Waseem Raja, Mahrukh[1] and Mohd. Ayaz Bhat***

*Consultant Ophthalmology, J&K Health Services.
[1]Medical Officer, J&K Health Services.

***Corresponding Author: Dr. Mohd. Ayaz Bhat**
Consultant Ophthalmology, J&K Health Services.

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## ABSTRACT

**Introduction:** Degenerative pterygium causes visual impairment due to astigmatism and blockade of visual axis. As pterygium cannot be treated medically, surgical excision of pterygium is the only way. Simple excision can be done but it is associated highest recurrence rate. Hence the standard method of preventing the recurrence after pterygium excision is Limbal conjunctival autograft. Adherence of the Auto graft to the excisional site is done by overlaying the auto graft upon the sclera either with sutures or glue routinely. However to address suture and fibrin related complications the concept of Autologous Blood came up. The current study taken up to find out whether autologous blood has become standard technique in treatment of degenerative pterygium. **Aim:** To assess the efficacy of Autologous blood in the adherence of the limbal conjunctival Autograft. **Purpose:** To know whether leaving the Autologous blood on the scleral bed can be made as a standard procedure in Pterygium surgery. **Materials and Methods:** 30 patients with the degenerative pterygium grown beyond the limbus were taken for the study. Patients with bleeding disorders, recurrent pterygium, ocular surface disorders, minimal pterygia and pregnancy were excluded. Pterygium was excised leaving the patient's own blood on the excised area with minimal cautery and Limbal conjunctival Auto Graft is placed on the bare sclera, and then pad bandage applied. Post operatively eyes were examined whether Limbal conjunctival Autograft is well adhered or not. All the patients were followed for minimum of 6 weeks. **Results:** All eyes (100%) showed excellent adherence throughout the postoperative period. None of the eyes lost the graft. **Conclusion:** The autologous blood excellent replacement for sutures and donor fibrin. Autologous blood is simple adjuvant of choice and has become gold standard in Pterygium surgery.

**KEYWORDS:** Degenerative pterygium Pterygium surgery.

## INTRODUCTION

Pterygium is a triangular wing shape proliferation of conjunctiva on the cornea in inter palpebral area. The subconjunctival tissue proliferates as vascularised granulation tissue to invade and destroy superficial layers of cornea including bowman's membrane and stroma. Mostly the condition is asymptomatic and only causes cosmetic disfigurement but sometimes it may cause variety of symptoms. Etiology is multifactorial with features indicative of both degenerative process and disordered growth. The epidemiological studies have reported strong correlation between pterygium and ultraviolet (UV) radiations, hot, dry, sunny and sandy climates. The prevalence rate varies widely (2% to 29%) but generally higher in the tropics than temperate countries.[1-3] There are association with rural regions, increasing age and male gender, which correlate with outdoor work.[4] Measures such as wearing sunglasses or prescription glasses have been described as protective factors against pterygium development.[3,5-7] Treatment is surgical excision. The bare sclera and primary closure technique both have unacceptable recurrence. There are various methods to prevent its recurrence following surgical excision. These are conjunctival autografting, amniotic membrane grafting, use of mitomycin-c or 5-flurouracil as adjuvant, Anti VEGF agents or beta radiations. In conjunctival autografting, the pterygium is excised and remaining defect is covered by patient`s own conjunctiva by using fibrin glue, sutures or may left sutureless and glueless.

## MATERIALS AND METHODS

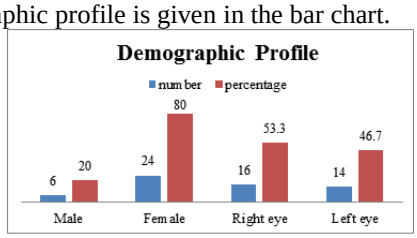
The present observational study was conducted at CHC RAJPORA PULWAMA KASHMIR INDIA on patients who were admitted with Primary or degenerative pterygium that did not have previous pterygium excision or trauma. All the patients were taken written consent prior to the surgery. This study had got the ethical committee clearance. All patients were examined for visual acuity, intraocular pressure, anterior segment

examination by slit lamp bio microscope and dilated fundus examination with +90 D lens. Our exclusion criteria were recurrent pterygium, ocular surface infection, pregnancy and minimal pterygia (stage 0) and bleeding disorders. Peribulbar anaesthesia is given to achieve akinesia and precise excision of pterygium, graft and replacement of graft on recipient bed. Pterygium cap is demarcated with crescent blade and cap was pulled out along with the head with colibri forceps. Plane is maintained throughout the dissection 4-6mm away from the limbus. Minimal bipolar cautery is applied to the bleeding points as the bare sclera. Care is taken not to damage the medial rectus. Limbal conjunctival graft is harvested from superior bulbar conjunctiva exceeding 1mm onto the limbus. Then graft is placed on the bare sclera slightly larger than the recipient bed. Graft is kept for 30 seconds and irrigation was not allowed in this period. However corneal drying was prevented by wetting the cornea with normal saline drop by drop. Neosporine eye ointment was placed onto the graft and inner canthus. Subconjunctival dexamethasone and gentamicin was given at inferior bulbar conjunctiva. Eye is closed and pad and bandage applied. After 24 hours pad and bandage was carefully opened and looked for subconjunctival haemorrhage, graft displacement, graft edema and graft loss.

## RESULTS

Total 30 patients were recruited for the study. There were 24 female and 6 male patients (80% and 20% respectively). Mean age group was in Male was 47years and female was 48.5 years All the patients were seen at 1st Postoperative day (POD), 1week POD, & 6week POD. There was 100% follow up present. Since our aim was strictly confined to observation of the limbal conjunctival autograft adherence to the scleral bed without fibrin glue and sutures, we did not study the recurrence rate. The postoperative complications are given in the table2. None of the patents had loss of graft (100%) noted till the end of 6 weeks.

Demographic profile is given in the bar chart.




## DISCUSSION

Gold standard method for the treatment till today is pterygium excision and conjunctival autograft transplantation.[10] To avoid suture related complications fibrin glue was used and has given better surgical outcome than graft adhered with sutures.[11,12] However fibrin glue has the danger of transmission of parvo virus 19, prion and HPV B12 infections.[13] in order to address this fibrin glue related complications autologous blood is used in two different studies.[8,9] this technique is rapid, inexpensive and simple. Hence was made as standard surgery for pterygium in our patients. Results show at the end of 6 weeks, there was no graft loss in all the patients comparable to Abraham Kurian et al in which 3 eyes had graft loss out of 100 eyes. The limitation of the current study is whether this procedure is also suitable to the patients with recurrent pterygium.

## CONCLUSION

The autologous blood is compatible bio-adherent and is the excellent replacement for sutures and donor fibrin. It is cost effective, quick and easy technique. Autologous blood is definitely the adjuvant of choice and has become gold standard in pterygium surgery.

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