ORIGINAL ARTICLE

# RESULTS OF CONJUNCTIVAL AUTO-TRANSPLANT IN PTERYGIUM SURGERY

**Haroon Rashid, Faizur Rahman, Sardar Bahadar Khan, Mahfooz Hussain**

Department of Ophthalmology, Saidu Teaching Hospital, Saidu Sharif, Swat, Peshawar Medical College, Peshawar, Gomal Medical College, D I Khan, and Bacha Khan Medical College, Mardan, Pakistan.

## ABSTRACT

**Objectives;** Pterygium is a wedge of conjunctival tissue ploughing across the limbus into the superficial cornea. Various surgical techniques are used to treat this condition. Conjunctival auto-transplant over the bare area is one of the techniques used. This trial was conducted to evaluate the results of conjunctival auto-transplant in the treatment of pterygium.

**Material & Methods:** This study was conducted at Saidu Teaching Hospital, Saidu Sharif Swat and Kuwait Teaching Hospital Peshawar, from 1st July 2008 to 31th December 2009. Complete history and clinical examination was recorded on a pre-designed profroma. The diagnosis of pterygium was a clinical one. All the pterygia were examined with slit lamp to look for vascularity, advancement towards the cornea and congestion. The surgical technique comprised of surgical excision of pterygium, and conjunctival auto-transplant on the bare sclera. Nylon 10/0 was used for suturing the conjunctiva. Follow up period was 6 months.

**Results:** In this study 70 patients were operated; 51 males and 19 females with a male to female ratio of 2.9:1. Recurrences occurred in 6(9.52%) cases. Other post-operative complications were granuloma formation in 1(1.58%), conjunctival cyst formation 2(3.7%), and persistent irritation due to chronic inflammation in 2(3.17%) case. Minor post-operative temporary complications were graft edema, delayed wound healing and foreign body sensation.

**Conclusion:** Conjunctival auto-transplant is an effective and safe procedure for excision of pterygium.

**Key words:** Pterygium, Conjunctival auto-transplant, recurrent pterygium

## INTRODUCTION

Pterygium (wing) is a wedge of conjunctival tissue ploughing across the limbus into the superficial cornea in the interpalpabral fissure commonly on the nasal side.[1] It is more common in the tropical and subtropical countries mainly caused by ultra violet light and dry dusty climates.[2-5]

The overall prevalence may be as high as17%.[6] Conservative measures such as the use of lubricant drops, lubricant ointments, steroid drops for inflammation, and protective measures such as use of certain protective measures in the form of sunglasses, P-caps, turbans are useful in decreasing the progress of the disease.[7]

Various surgical techniques are used to treat the pterygium which include bare sclera technique, partial thickness sclerectomy with bare sclera excision,[8] bare sclera with adjunctive therapy in the form of 5-flourouracil[9] or mitomycin-C,[10] beta radiation, Laser therapy, thiotepa drops and cyclosporine drops instillation.[11] Lately amniotic membrane is transplanted over the bare area.[12]

In general the results of surgery are better in the older patients with thin atrophic and stationary pterygia.[2]

Recurrence is defined as growth of fibrovascular tissue of more than 1 mm over the cornea of previous pterygium excision.[13] Recurrences are quite common in young patients and in patients with active, inflamed and rapidly growing pterygia, even with surgery and adjunctive therapy.[14,15]

An alternative therapy is conjunctival auto-transplant over the bare area with or without adjunctive therapy. The technique is considered as a gold standard.[16] Suture material is of no importance as far as recurrences are concerned.[17] Cut and paste method by using fibrin adhesive is also reported as an effective way to prevent recurrences.[18]

This trial was conducted to evaluate the results of conjunctival auto-transplant in the treatment of pterygium.

## MATERIAL AND METHODS

All the patients were examined in the out patient department of Saidu Teaching Hospital, Saidu Sharif, Swat and Kuwait Teaching Hospital, Peshawar. Complete history and clinical examination was recorded on a pre-designed profroma. The diagnosis of pterygium was a clinical one. Special inquiry was made about the chief complaints, duration of growth and any previous medical or surgical treatment. The state of growth was further elaborated by asking whether it was stationary, slow growing or rapidly growing. In history it was also noted whether the pterygium was a primary one or recurrent and in the case of recurrent pterygia the number of previous surgeries was also noted. All the pterygia were examined under slit lamp to look for vascularity, advancement towards the cornea and congestion.

The surgical technique comprised of excising the pterygium, clearing the sclera and transpositional graft from the superior bulbar conjunctiva and suturing this to the bare area with 10/0 nylon.

All the surgeons used the same technique and post-op evaluation according to a pre designed profroma. Various post-operative complications and recurrences were noted. The follow up period was six months.

## RESULTS

In this study 70 eyes of 70 patients were operated. Among these 51 were males and 19 females with a male to female ratio of 2.9 to 1. Ten of the patients had recurrent while 60 had primary pterygia. Seven patients were lost to follow up and were excluded.

The symptoms were watering, soreness and cosmetic problems in order of frequency.

Recurrences occurred in 6 (9.52%) cases. Other post-operative complications observed were granuloma formation in 1 (1.58%), conjunctival cyst formation 2 (3.7%), and persistent irritation due to chronic inflammation in 2 (3.17%) case.

Minor post-operative temporary complications observed were graft edema, delayed wound healing and foreign body sensations.

## DISCUSSION

Pterygium excision is considered as a trivial procedure and little attention is paid to the problem of recurrence. Recurrences are quite common and a cause of concern for the patient and the surgeon.

Several techniques for excision of pterygium are reported,[19] some reportedly having less recurrence. We studied the auto-transplant of conjunctiva. 9.52% recurrence rate as compared to 32% in bare sclera technique and 35% in simple excision makes the technique superior to others.[6]

In simple surgical excision the recurrence may be as high as 35% and in excision with bare sclera it may be 32% while in transposition method it may be 40% and in cases of recurrent pterygia it may be 44%. The usual time for recurrence is three months, which is near to our figure.[7]

In a study by Oguz et al the recurrence was as low as 9.52% which is similar to ours.[14] They concluded that this method appears to be an effective procedure with a low recurrence. They also reported temporary graft edema for a few days, foreign body sensations and epiphora as complications of the procedure.

KatireiogIn et al compared the results of three methods, amniotic membrane graft, conjunctival auto-transplant and conjunctival auto-transplant plus mitomycin application and concluded that amniotic membrane and conjunctival auto-transplant appear to be equally effective to prevent recurrences.[20]

Massaontis et al described a recurrence rate of 5.25% in primary pterygia and 30% in recurrent pterygia,[19] they advocate adjunct therapy for recurrent therapy. Anduze AL suggested that it is more effective in preventing recurrences.[21]

Dare et al gives the figure of 100% success rate for bare sclera with mitomycin application which appears to be on the higher side. May be the duration of the study was small and they treated only primary cases.[10] Oguz H et al had a recurrence of 9.52%, much nearer to our study.

Farrah JJ et al emphasize that surgery be done by consultant ophthalmologists and not left to trainees which will lead to a higher recurrence.[16]

In our study the complication rate is not significant, because granuloma formation and conjunctival cyst formation was seen in only 3.7% cases and necrotizing scleritis or chronic ulcer formation were not observed.[22]

## CONCLUSION

Conjunctival auto-transplant is an effective and safe procedure for excision of pterygium.

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**Address for Correspondence:**

Dr. Haroon Rashid
Department of Ophthalmology
Saidu Medical College
Swat, Pakistan