

A comparative study of surgical outcome and recurrence of pterygium on surgical excision of pterygium (bare sclera method) and surgical excision with conjunctival autograft

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Abstract

In the present study, we aim to complete removal of pterygium itself and placement of graft in place of the pterygium that will serve as a barrier to new growth. At times part of tenons is also needed to be removed as it provides fibroblasts for further growth. To evaluate the data for percentage and other facts of pterygia cases amongst Ophthalmic OPD cases. To compare surgical outcome and recurrence after simple excision (bare sclera) with surgical excision and conjunctival autograft.

Keywords: surgical outcome, conjunctival autograft.

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INTRODUCTION

This study has been carried out in the department of ophthalmology Indian Institute of Medical Science and Research (IIMS&R) college Warudi tq. Badnapur dist. Jalna during the period Jan 13 – Dec 14. Pterygium is a conjunctival (thickened and degenerated) encroachment over cornea especially in the interpalpebral area, generally on the nasal side of cornea but can be on both sides. Pterygium is a very common ophthalmic condition met in tropical countries especially in India. Pterygium leads to diminution of vision and cosmetic disfigurement¹. Exposure to sunlight (ultra violet rays) is supposed to be the main cause. However dry dusty wind is of the

subsidiary cause for its occurrence. Different theories have been put forward to explain the etiology that is inflammatory, neoplastic and degenerative. Irrespective of its aetiology the treatment is surgical. Recurrence is common so different methods are used to avoid recurrence. Excision with conjunctival autograft is well accepted and safe method to prevent recurrence². Two factors determine successful pterygium excision

1. Complete removal of pterygium itself and
2. Placement of graft in place of the pterygium that will serve as a barrier to new growth. At times part of tenons is also needed to be removed as it provides fibroblasts for further growth³.

AIM AND OBJECTIVE

1. To evaluate the data for percentage and other facts of pterygia cases amongst Ophthalmic OPD cases.
2. To compare surgical outcome and recurrence after simple excision (bare sclera) with surgical excision and conjunctival autograft.

MATERIAL AND METHODS

100 cases of pterygium were examined in outpatient department. The diagnosis is confirmed with detail history, Clinical examination and slit lamp examination.

Case Selection Criteria

- a. Grading of cases done on the basis of encroachment of conjunctival tissue over cornea.
 1. Grade: conjunctival tissue crossing limbus and reaching midway between limbus and pupillary border.
 2. Grade 2: pterygium extending up to pupillary border.
 3. Grade 3: pterygium crossing pupillary border
- b. Type Of Pterygia : Progressive, Regressive Or Static In Condition
- c. Pterygium associated with cataract and other diseased conditions.
- d. Minimum 3 months follow up after surgery.
- e. Cases with other disease condition- like corneal ulcer, chronic dacryocystitis not

Included in the study

Amongst 100 cases

1. 55 cases were of unilateral pterygia.
2. 40 cases were of bilateral pterygia
3. 05 cases were of recurrent pterygium.

Out of 100 cases 20 were subjected to surgical removal only one eye of each patient either with simple excision (bare sclera method) or excision and conjunctival autograft. Rest of the cases primarily treated with refraction and smoothening and lubricating eye drops.

Cases Selected For Surgery

1. Cases with grade 1, progressive type of pterygium, having symptoms and Willing for surgery.
2. Cases c_grade 2and3 pterygium either with cataract or with astigmatism pterygium operated first followed by cataract surgery after one month.
3. Cases with recurrent pterygium.

Exclusion Criteria

Cases c_other disease conditions like corneal ulcer, chronic dacryocystitis not included in the study.

Out of 20 cases-Unilateral Bilateral

Investigations Done: Hb%, Urine(R) Blood sugar, ECG and Anesthetic fitness.

Surgical Methods

1. Excision C_Bare Sclera Method: Anesthesia either topical ligncaine 4%eye drops or bupicaine 5% eye drops or peribulbar anesthesia with 2% ligncaine injection. Head of the pterygium dissected from cornea either with vanna's

scissors, BP knife (15 no blade) or crescent knife. Care taken not to dissect deep into corneal stroma to avoid complication of perforation. Head and body of the Pterygia dissected towards periphery and cut along with thickened degenerated subconjunctival tissue 3- 4 mm away from limbus taking care not to injure medial rectus muscle. Conjunctiva fixed at upper and lower end by taking two sutures and bare sclera is kept open. Homeostasis achieved by cauterization. subconjunctival injection of gentamycin mixed with dexamethasone given. Antibiotic ointment put and eye closed with pad.

2. Excision With Conjunctival Auto Graft: Initial steps similar as in the above procedure that is in bare sclera method. Thorough scraping and cauterization of the sclera bed done. Measurement of bare sclera taken with the help of caliper. — Superotemporal bulbar conjunctiva is separated from tenons by injecting 1/2cc saline subconjunctival. Marking (with caliper dipped into blue stain gentian violet) done. Conjunctival flap made as thin as possible avoiding tenons and placed over sclera bed taking care that limbal cut end will face limbal end and there will be no inversion of graft. Four to five sutures taken to fix the graft tissue either with 8 zero vicryl or 10 zero ethilone. Subconjunctival injection of genta: wymisone given. Eye closed after putting antibiotic ointments. Postoperatively all patients were given topical Antibiotic + steroid combination (Tobramycin + Dexamethasone) 2 hourly 1 week, There after continued in tapering doses for 1 month. All patients were followed on day 2, day 15, 1 month, 3 month and 6 monthly thereafter. Refraction done postoperatively after one month.

OBSERVATIONS

Group A: Pterygium grade 1cases (unilateral/bilateral) pterygium with no previous h/o surgery, treated medically.

Group B: grade 1-2 cases (10) with (unilateral/bilateral) pterygium with no h/o surgery, operated with simple excision bare sclera method.

Group C: grade 2-3 six cases with no h/o surgery, operated with excision and conjunctival autograft (Bulbar).

Group D: 4 cases with h/o previous surgery with recurrence. Operated with excision and conjunctival autograft (Limbal).

OBSERVATIONS AND RESULTS

Table 1: Age, Sex and Occupation

Age	Male	Female	Occupation
20-30yrs	09	02	2 Rickshaw driver, workers(outdoor)
31-60rs	32	23	Farmer/laborer
60yrs and above	20	14	---do----

Table 2: Type of surgery and recurrence

Procedure	No Of Operations	No Of Recurrences	Percentages (%)
Excision with Bare Sclera	10	2	20%
Excision With Conjunctival Autograft	10	NIL	NIL

All patients are followed with minimum follow up 3 months. Average follow up was

Table 3: Visual assessment

No of operated cases by both methods	No of patients With visual improvement	%
20	5	25%

Complications

One case developed conjunctival cyst after 2 months. Cyst excised.



Figure 1: Right Eye Nasal Pterygium Grade II



Figure 2: Post operative follow up after 15 days

DISCUSSION

In fact there are numerous surgical methods for the surgical treatment of pterygium implies that no method proves to be effective surgically. However pterygium excision with conjunctival autograft is the most accepted method now a days and it has been shown to be the safe and effective in reducing post-operative recurrence. Table no 1 shows age, sex and occupation. Pterygium is common in middle-old age group. As shown out of 100 cases 55 cases are in 35-60 yrs. Pterygium is common in males than females probably because of outdoor activities. In the study 61 males are affected against 49 females. Similarly persons doing outdoor activities like farmers and outdoor workers are suffered most.(exposure to sunlight and dusty wind) Comparison of groups showed that group without autograft transplantation – recurrence rate is higher is compared with excision with autograft⁴.

Table 2: Methods and recurrence rate

Age	Male	Female	Occupation
20-30yrs	09	02	2 Rickshaw driver, workers(outdoor)
31-60rs	32	23	Farmer/laborer
60yrs and above	20	14	---do----

Out of 10 cases of excision with bare sclera recurrence is in 2 cases (20%). Out of 10 cases of excision c_ autograft no recurrence seen. Table no 3- Acuity of vision. Visual reduction due to pterygium is either because of pulling of cornea and change in the shape of cornea due to fibrosis and regression of pterygium or covering of pupillary area. Out of 20 cases 5 show visual improvement in visual acuity by 2 lines on snellens chart.

SUMMARY

Though many procedures are used for removal of pterygium excision with conjunctival autograft is proved to be the best method and can be used to prevent recurrence.

REFERENCES

1. Parsons diseases of the eye , 21st edition 181-182.
2. Prabha sawat p ,baron k ,Burkett g,Tseng sc , comparison of conjunctival autograft ,amniotic membrane grafts and primary closure for pterygium excision. Ophthalmology 1997,104,974-85.
3. Keyon KR, Wagner MD, Hetinger ME. Conjunctival autograft transplantation for advanced and recurrent pterygium. Ophthalmology 198 ;,92; 1461-70.
4. Open journal of ophthalmology 2013; 3; 97-102. Achut Pande , Nishant Marken , Ravindra Marken ,Bhuvan Chandra ,Reddy.
5. Koranyi G ,Seregard S, Kopp ED,Cut & paste ,A no suture approach to pterygium surgery. British journal of ophthalmology 2004 ,88 ; 911-914
6. Prilozi 2011 ; dec 32 (2) ;273-87
7. ARCH Ophthalmology 1997, oct,115 (10) ;1235-40 Tan DT ,Cheep SP ,Dear KB,Lim AS.

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