

Pterygium Excision – Bare Sclera Technique Autologous Conjunctival Graft And Amniotic Membrane Graft-A Prospective Observational Study.

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I. Introduction

AIM OF THE STUDY - To evaluate the efficacy, safety and recurrence rates of conjunctival autograft and bare sclera technique and amniotic membrane graft and treatment of primary pterygium

MATERIALS AND METHODS- 75 patients underwent pterygium excision for primary pterygium was included in the study which was conducted from December 2014 to 2016 November. Among them, 54 patients are females 21 are males. The plan of the study was to investigate these patients post-operatively for the efficacy, safety and recurrence rates of different types of pterygium excision.

TREATMENT ALLOCATION:

Patients were initially and randomly allocated to pterygium excision with bare sclera technique/autologous conjunctival graft/amniotic membrane graft. Out of 75 patients, 25 each are subjected to the above three techniques. After full assessment of the case, patients were informed about the surgical procedure after taking consent.

INCLUSION CRITERIA:

- 1) Clinically significant symptoms related to pterygium
- 2) Visual morbidity related to pterygium.
- 3) Reduced Snellen's v/a acuity by 2 line due to corneal scarring and irregular astigmatism.
- 4) Corneal encroachment of 2mm or more (grade 2 or grade 3 pterygium)

EXCLUSION CRITERIA:

- 1) Single eyed patients.
- 2) Recurrent pterygium.
- 3) Clinically proven steroid responders and other contraindications to topical steroid use
- 4) Active ocular surface disease and glaucoma.
- 5) Patients not keen on surgical intervention/ Not willing to participate in the clinical trial.
- 6) Patients under 21 years of age .

PREOPERATIVE EVALUATION :

Patient data includes age, sex, past ocular medical and surgical history, V/A and refraction before and after surgery. Surgical technique and medications, post-operative complications, recurrence and final cosmesis. Characters of pterygia includes location, size and extent across cornea, signs of inflammation and previous treatment were recorded.

Patients were requested to come for repeated follow up.

They were divided into 3 groups, 25 each,

Group 1- pterygium excision with bare sclera technique.

Group 2- pterygium excision with autologous conjunctival graft.

Group 3- pterygium excision with amniotic membrane graft.
Results are compared.

II. Evaluation Of Results:

Total patients examined are 75
Age group range from 25-65 years taken
The mean age was 43 years
60% unilateral and 40% bilateral
72% are female patients, 28% are males.

Pterygium was present in 30 persons (40%) in the right eye.
Remaining 45 persons (60%) have pterygium in the left eye.
Out of 75 cases 63 (84%) are Grade 2 and the remaining 12(16) are Grade 3
Satisfactory Post Operative cosmetics obtained in Group 2 and 3 with Conjunctival transplantation and Amniotic membrane after pterygium Excision.

Complications

Group/complications	BST(Gr-1)	ACGT(Gr-2)	AMT(Gr-3)
Hematoma	2(8%)	0	1
Granuloma	1(4%)	0	0
Loss of graft	0	2(8%)	3(12%)
Recurrence	4(16%)	2(8%)	4(16%)
Cystic degeneration	0	1(4%)	0

RECURRENCE:

Recurrence was noted in
6 patients out of 25(in group1).
2 patients (in group 2),
3 patients (in group 3)

Early recurrence is noted in (group 1 patients) in 2nd month, whereas late recurrence is noted in (group 2) and 3 in third and fourth month.

III. Discussion:

Pterygium is a common clinical condition in costal AP.

In this prospective observational study, pterygium surgeries like bare sclera technique Conjunctival autograft transplantation and amniotic membrane graft were conducted in Government Regional Eye Hospital under the ages of Andhra Medical College Visakhapatnam.

A total of 75 patients were sub grouped into three groups

Group 1.bare sclera technique

Group 2.Conjunctival autograft transplantation and Group 3.amniotic membrane graft were studied.

Most common are from north costal area of AP who are agricultural laborers and out- door workers who are constantly exposed to sun light(U V B radiation)

Most common presenting symptom is the burning and FB sensation and watering of the eyes.When conducted Shimmer's test found to have tear film abnormalities and tear film break up time which may be attributed to the symptomology.Another cause identified as chronic inflammation. Total patients examined are 75 .Age group range from 25-65 years taken. The mean age was 43 years 60% unilateral and 40% bilateral 72% are female patients, 28% are males. Pterygium was present in 30 persons (40%) in the right eye. Remaining 45 persons (60%) have pterygium in the left eye. Out of 75 cases 63 (84%) are Grade 2 and the remaining 12(16) are Grade 3

Satisfactory Post Operative cosmetics obtained in Group 2 and 3 with transplantation and Amniotic membrane after pterygium Excision. Recurrence was noted in 6 patients out of 25(in group1).2 patients (in group 2), 3 patients (in group 3).

Early recurrence is noted in (group 1 patients) in 2nd month, whereas late recurrence is noted in (group 2) and 3 in third and fourth month. Irregular corneal astigmatism was 15 % of cases which is the reason for reduced uncorrectable visual acuity due to pooling of tears in the advanced pterygium according to Goldenberg JB in 1990.But in our study it is found the uncorrectable visual acuity is due to mechanical flattening of cornea with -3 to +3 Diopters and additional evidence of reduced contrast sensitivity tested with Pelli Robson contrast

sensitivity and glare disability were seen in this study. In recurrent Pterygia restriction of ocular motility and Diplopia are reported and recorded. Fleishy pterygia are seen more common in younger age groups and atropic and flat pterygia are seen in the older group in our study which accounted for recurrence more common in younger age group with fleshy pterygia regardless of which procedure followed for the surgical treatment of pterygium.

No intra-operative complications like globe perforation and medial rectus damage in noted in our study as was reported in Krachmer Mannis ,Holland “CORNEA” Vol 3.

Limbus to limbus approximation is obtained while grafting done in all cases of CAG and AMG technique for the rectification of limbal cell deficiency by grafting Limbal cells through this procedure. Though the time consumed for AMT and CAG was more and surgeons skill is involved, the bare sclera technique is proved to be inferior in preventing recurrences though it is easy and less time consuming.

IV. Conclusion:

By comparing the three said and studied techniques in our prospective study it was found that the recurrence rate is very less in CAG technique than in AMG and high in Bare sclera technique. Hence The CAG can be adopted for all types of pterygia instead of AMG and bare sclera.

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