

Study of Visual Outcome after Excision and Conjunctival Grafting as a Primary Procedure

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Abstract: Study conducted between Nov.2005- sept.2007 included 55eyes of 50 patents. The incidence among age sex distribution and visual outcome attending the opd Regional Eye Hospital Kurnool. The patients were examined under slitlamp biomicroscope, investigated for Diabetes mellitus, hypertention, lacrimal drainage syringing, preoperative and post operative visual acuity using Snellen's chart, for astigmatism using keratometer.follow up done 3 months, 6 months, 9 months and 1 year period. Majority of the patients (62%) were between the ages of 31 to 50 years. 8 patients presented before this age and 4 of them had associated dry eye. Occupations of most of the males involved prolonged exposure to sunlight and dust(farmers, Fishermen, labourers) Most women were housewives. Of the 50 patients included in the study 28 were males (56%) and 22 were females (44%). Significant visual acuity improvement (2 Snellen's line or more) was seen in 21 eyes (38.2%) while 1 line improvement was seen in 19 eyes (34.54%) The average pre-operative astigmatism was 1.93D while the average post-operative astigmatism was 1.36D there was a 0.57D (29.53%) reduction in pterygium induced astigmatism. The percentage of reduction was greater for Group B and Group C pterygium's (49.62% & 42.27%) The average degree of astigmatism is comparable to the values in studies 61 2eyes of Group C did not show any improvement in visual acuity even after reduction in visual acuity even after reduction in astigmatism due to the formation of macular grade corneal opacity following the pterygium excision.

Keywords: pterygium¹, conjunctival graft, snellen's chart, visual outcome,

1. Introduction

A total of 55 eyes of 50 patients. 28 patients were male during Nov.2005 – Sep.2007 attending the opd at Kurnool Regional eye hospital Kurnool. The patients examined graded in to A, B and C depending on the extension of growth on to cornea. Pterygium excision done under local 2%lignocaine peribulbar anaesthesia, auto conjunctival graft done using 10 '0' absorbable suture. After 4 weeks visual acuity¹ was estimated by Snellen's chart 2 lines improved in 21 eyes (38.2%), 1 line improvement seen in 15 eyes (27.27%) and No improvement seen in 19 cases, of the 19 cases 13 eyes were preoperative vision was 6/6 and more, 2 cases having macular grade corneal opacity and 4 patients on current cataract accounting for no improvement

2. Materials and Methods

A series of fifty five eyes of fifty patients seen at REGIONAL EYE HOSPITAL, KURNOOL. Were included in the study are age more than 20years, primary & recurrent pterygium, symptomatic pterygium with reported episodes of redness and pain, Defective vision due to Growth crossing visual axis, pterygium induced concerned astigmatism, pterygium extending more than 1mm on to cornea and Cosmetic reason. Exclusion Criteria those patients with pseudopterygium, existing conjunctival disease like previous alkali burns, moorens ulcer etc, which predisposed to the formation of pseudopterygium. All patients underwent visual acuity testing, Refraction best glass correction, Keratometry (K₁and K₂), slit lamp biomicroscopic examination was done for all patients and following were noted Location of pterygium, progressive or non progressive and the extension of pterigium.. Health of conjunctiva, ³associated ocular diseases like CDK, Cataract, pinguecula,

evaluated for diabetes mellitus and hypertention. patients were started on Ciprofloxacin 0.3% eye drops one day prior to surgery, xylocaine test dose was done. Pterygium excision done under local xylocaine anaesthesia by using 15 No. Blades and autoconjunctival graft taken supero-temporal quadrant and exact limbal orientation of the conjunctival graft was maintained and shifted to the receiving bed. The graft was sutured using 10 '0' absorbable suture, injection gentamycin was given and eye was closed and padded.post operatively topical antibiotic-steroid combination eye drops 4 times day, tear substitutes moisol eye drops 4 times a day. Patients were then evaluated with respect to visual acuity at 3 months, 6 months, 9 months and 1 year.

3. Investigations

1) Routine haemogram. 2) Routine Urine examination 3) Fasting blood sugar. 5) Chest X – ray. 6) keratometer for estimation of corneal K₁and K₂ 7)Slit lamp biomicroscopy for anterior segment evaluation.

4. Surgical Procedures

Patients were started on Ciprofloxacin eye drops 0.3% 1th hourly in the eye to be operated, one day prior to surgery. Injection xylocaine 2% test dose was given subcutaneously to look for any signs of sensitivity. Patients underwent pterygium excision with conjunctival grafting for primary and recurrent pterygiums. Pterygium excision was carried out in the following manner. Under topical anesthetic by instilling Lignocaine 4% to induce anesthesia of the cornea and the conjunctiva. Some patients required peribulbar anesthesia because of excessive eye movements. The surgical field was painted with Betadine and draped with sterile drapes. Universal eye speculum was used to separate the lids and

expose the surgical field. 2% Lignocaine / 1:200000 adrenaline mixture was injected under the body of the pterygium. The head was grasped with a colibri and the head was dissected off from the cornea with a no. 15 BP blade up to the limbus. The body of the pterygium was dissected and excised using westcott's scissors. The excised area included a 1mm border beyond the edges of the excised head at the limbus. The globe was turned inferiorly and lignocaine 2% was injected subconjunctivally in the supero-temporal quadrant to form a bleb and separate it from the Tenon's Capsule². Wescott's scissors was used to cut a conjunctival flap of the exact size of the receiving sclera bed measured using castroviejo's calipers. The exact limbal orientation of the conjunctival graft² was maintained and shifted to the receiving bed. The graft was sutured using 10/0 nylon interrupted sutures. With the bites incorporating the episclera. The dissected area of the cornea was smoothed out by scraping with no. 15 BP blade. Injection Gentamycin was given to the inferior fornix at the end of the procedure and the eye was closed and padded.

Treatment given was: Topical antibiotic-steroid combination eye drops (Ciplox- D eye drops) times a day. Tear substitutes (Moisol eye drops) 4 times a day. The steroids were stopped after a period of 2 weeks and the tear substitutes were continued. Patients were then evaluated with respect to visual acuity. Keratometry and presence or absence of recurrence at 3 months, 6 months, 9 months and 1 year.

5. Observations

Sex Incidence

Of the 50 patients included in the study 28 were males (56%) and 22 were females (44%).

Table 1: Sex Incidence

| Sex | No. of patients | Percentage |
|--------|-----------------|------------|
| Male | 28 | 56 |
| Female | 22 | 44 |

Age Distribution

Majority of the patients (62%) were between the ages of 31 to 50 years. 8 patients presented before this age and 4 of them had associated dry eye. Occupations of most of the males involved prolonged exposure to sunlight and dust (farmers, Fishermen, labourers) Most women were housewives.

Table 2: Age Distribution

| Age range (years) | No. of patients | Percentage |
|-------------------|-----------------|------------|
| 10 - 20 | 1 | 2 |
| 21 - 30 | 7 | 14 |
| 31 - 40 | 19 | 38 |
| 41 - 50 | 12 | 24 |
| 51 - 60 | 8 | 16 |
| 61 - 70 | 3 | 6 |

Table 3

| Pterygium length | Pre-op astig | Post-op astig | % Reduction |
|------------------|--------------|---------------|-------------|
| Group A | 1.38 D | 0.97 D | 29.71 |
| Group B | 3.95 D | 1.99 D | 49.62 |
| Group C | 5.63 D | 3.25 D | 42.27 |

Pterygium Length and Associated Astigmatism

Visual improvement following pterygium surgery

Table 4

| Visual improvement | No. of eyes | Percentage |
|--------------------|-------------|------------|
| >3 line | 5 | 9.1 |
| 3 line improvement | 5 | 9.1 |
| 2 line improvement | 11 | 20 |
| 1 line | 15 | 27.27 |
| No improvement | 19 | 34.54 |

6. Discussion

This study conducted between NOV-2005 and SEPT. 2007 included 55 eyes of 50 patients. 28 of the 50 patients were males. Equal incidence⁴ studies 59. While others report a male preponderance. Our study showed an almost equal incidence of pterygium in both sexes. Prevalence rates for pterygia have been known to increase with age although a decline has been noted in patients over age of 60 years⁶⁹. Our study showed the maximum incidence between the ages of 31 - 50 years (62%) while only 3 patients (6%) were above 60 years. Reporting and a regression of pterygia with senescence⁵⁹. Prevalence rates of pterygium in India vary between 5.5% - 9%. Significant visual acuity improvement (2 Snellen's line or more) was seen in 21 eyes (38.2%) while 1 line improvement was seen in 19 eyes (34.54%) The average pre-operative astigmatism was 1.93D while the average post-operative astigmatism was 1.36D there was a 0.57D (29.53%) reduction in pterygium induced astigmatism. The percentage of reduction was greater for Group B and Group C pterygium's (49.62% & 42.27%) The average degree of astigmatism is comparable to the values in studies⁶¹ 2eyes of Group C did not show any improvement in visual acuity even after reduction in astigmatism due to the formation of macular grade corneal opacity following the pterygium excision.

7. Summary and Conclusions

Pterygium excision with conjunctival grafting is presently a viable surgical option for the treatment of pterygium. The treatment for the seemingly minor and innocuous pterygium is both cosmetically and visually gratifying. The good results obtained with respect to cosmetic results along with the lower recurrence rates, more than compensates for the arguments of prolonged operative time and the need for operating microscope against its use.

Moreover, the lower incidence of complications and the occurrence of minor non-sight threatening complications put the use of other modes of adjunctive therapy (MMC. Radiation) in disrepute.

Thus pterygium excision with conjunctival grafting might finally provide the solution for the effective management of PTERYGIUM and post operative visual outcome is 2 line in snellen's chart was noted

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