

Recent Management of Double Pterygium: A Hospital Based Study

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Abstract: ***Purpose:** To describe a recent management of conjunctivo-limbal autografting (CLA) for double pterygium in single eye & to evaluate post surgical outcome on follow up. **Method:** A total 6 months prospective short study in which fifteen (15) patients were selected who had double pterygium in one eye & serial analysis of 15 eyes of surgically managed double pterygium was done. The conjunctivo-limbal autograft from Nasal & Temporal pterygium in same eye was taken from the neck-body of pterygium on either side & the harvested conjunctivo-limbal autograft from the neck-body of the nasal pterygium was transferred to temporal pterygium & similarly temporal autograft nasally with minimal loss of limbal stem cells. The patients were followed up per month to check for any recurrence or complications. **Result:** No recurrence or other complications was noted in any patient. **Conclusion:** Transferring conjunctival autograft harvested from neck- body of nasal & temporal pterygia in the same eye to utilize for autografting in temporal & nasal pterygium in double pterygium is less complicated & useful procedure for double headed pterygium .*

Keywords: conjunctivo-limbal autografting (CLAG), limbal stem cell dysfunction (LSCD), limbal stem cells (LSC), AMG (Amniotic membrane graft), Vicryl (Ethicon) Polyglactin

1. Introduction

A pterygium is a fibroelastotic, fibrovascular, wing-shaped hyaline degeneration of the bulbar conjunctiva onto the cornea, usually in the horizontal meridian of the palpebral fissure¹. Risk factors: Exposure to UV light, environmental microtrauma to the ocular surface localized limbal stem cell dysfunction (LSCD) & a genetic (p53) predisposition.

Pathogenesis¹

Consist two stages: the initial disruption of the limbal corneal-conjunctival epithelial barrier, progressive "conjunctivalization" of the cornea with cellular proliferation, inflammation, connective tissue remodeling with angiogenesis etc.

Morphology or Parts of Pterygium¹:

Head: which rests on cornea. **Cap:** a semilunar infiltrating portion in front of the head showing opaque spots (Fuch's spots) suggestive of progression, **Neck:** constricted portion, **Body:** remaining bulk of mass.

India is developing country most patients in our study are farmers by occupation & they mostly exposed to outside sunlight which is one of the risk factor. Removal of double head pterygium with bare sclera leave large conjunctival defects. So we have done a technique of conjunctival autografts from the neck- body of double head pterygium itself to remove defect.

2. Material & Method

Case records of 15 eyes of 15 Patients, 10 Males & 5 Females who underwent Pterygium excision with conjunctival autograft from March -2017 to Sept -2017 were studied at SCEH-Sagarmatha Choudhary Eye Hospital, Lahan (Nepal). Indication for surgery was cosmetic & visual morbidity. Depending upon the corneal involvement, pterygium was classified² like: Grade 1:

midway between limbus & pupil border, Grade 2: extends up to the pupil, Grade 3: crosses pupil.

Surgical Method: Under Peribulbar anaesthesia with 5cc injection of 2% xylocaine (3cc) with 0.5% bupivacaine (2cc) was given & ocular massage done.

Procedure in operation table: Painting - draping with povidone iodine 5% (Betadine solution) was done. Wire speculum was inserted. Ocular akinesia - analgesia checked. Temporal pterygium was first operated. Conjunctival incision was taken at the head of pterygium which was extended over the breadth of pterygium. Tenon's tissue was separated & excised almost upto approximately 3.5-4mm temporally & upto breadth of pterygium vertically.

Head of pterygium was then excised. Same procedure was followed on nasal pterygium & tenon's was excised upto 3-4 mm nasally & over breadth of pterygium. Measurement of graft size was done with Castroviejo Caliper. Conjunctiva over nasal pterygium was cut to fit the planned conjunctival defect on the other side. Nasal conjunctival graft was then prepared & kept on the same bed.

Similar procedure was done on temporal conjunctival graft. Then the nasal sided conjunctival graft was transferred to temporal defect side with vice versa procedure was followed. The graft were attached using 8-0 Coated Vicryl (Ethicon) Polyglactin Violet Braided maintaining limbal orientation of grafts on either side.

The eye was patched. Post operatively topical fluorometholone & neomycin eye drops were given 8 times for 5 days along with taper dose for each five days. Topical 0.5% carboxy methylcellulose drops were use topically for 3 weeks.

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3. Result

10 (66.66%) out of 15 patients were males and the average age group was 40 ± 20 yrs. 5 (33.33 %) females with average age group of 45 ± 15 yrs. Follow up of operated patients were done on first week post op & then after one month. Recurrence was noted in one male & one female in operated eye on temporal side. (Recurrence is nothing but fibroelastotic-hyaline degeration of bulbar conjunctiva crossing the limbus & grows over cornea.) One case presented with graft odema one first post op day but resolve on follow up & two cases presented with suture related allergic papillae with congetion .



Figure: One month post op

4. Discussion^{4,5,6}

Numerous surgical procedures have been recommended for pterygium excision as follows ^{1,2,6}

- Simple excision with closure
- Mc Reynold’s operation: head is sutured to body of pterygia
- Kehr’s operation: head is sutured to inferior fornix
- CLAU ^{2,3} : conjunctivo-limbal autograft with or without Mitomycin C(0.02%) or AMG (Amniotic membrane graft) or fibrin glue
- Recent options under trial are: use of intralesional bevacizumab injections, bevacizumab eye drops, pterygium excision with lamellar keratoplasty.

In summary, autografting of conjunctiva from temporal to nasal & vice versa with preservation of limbal stem cells (LSC) is easy technique to manage double pterygia & also preservation of superior conjunctiva also need full for trabeculectomy or small incision cataract surgery. One more advantage of this technique is cost effective, easy learning curve. No complications from mitomycin C (0.02%) like sclera melting, granuloma formation etc.

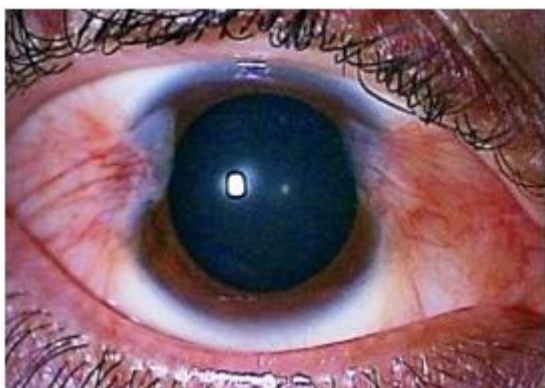


Figure: Pre op

Table 1: Sex & Eye Incidence

Sex & Eye involved	No. of Cases	Percentage
Males	10	66.66 %
Females	05	33.33 %
Right Eye	08	53.33%
Left Eye	07	46.66 %

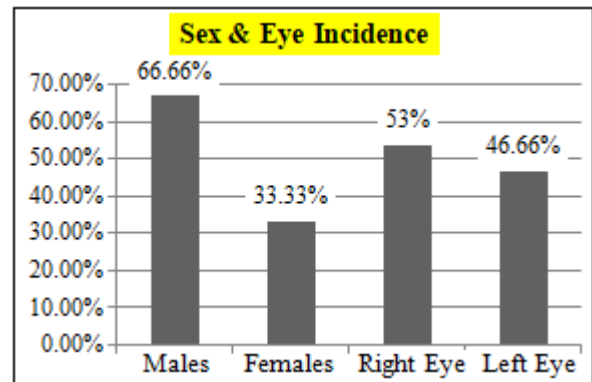
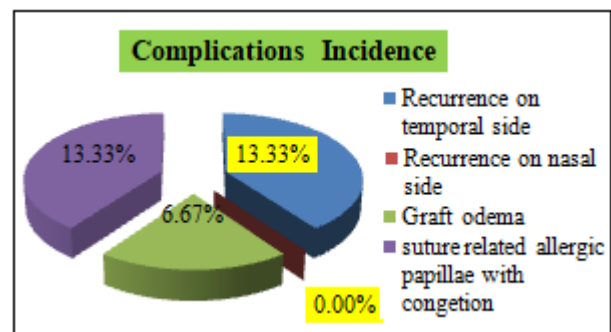


Table 2: Complications Incidence

Complications Incidence	No. of Cases	Percentage
Recurrence on temporal side	2 1 :Male , 1: Female	13.33 %
Recurrence on nasal side	0	0 %
Graft odema on first post op day	1	6.67 %
Suture related allergic papillae with congetion	2	13.33 %



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