



## CONJUNCTIVAL LIMBAL AUTOGRAFT OF TWO MILLIMETER STRIP OF TWO CLOCK HOURS AFTER PTERYGIUM EXCISION – NO GLUE NO SUTURE TECHNIQUE

<b>Madhura KS</b>	Senior Resident of Ophthalmology Bhaskar Medical College/ Bhaskar general hospital Yenkapally , Moinabad, RR district Telangana State
<b>Dharani Padam</b>	Junior Resident of Ophthalmology Bhaskar Medical College/ Bhaskar General Hospital Yenkapally, Moinabad, RR district Telangana state
<b>Pallavi Elizabeth</b>	Junior Resident of Ophthalmology Bhaskar Medical college/ Bhaskar General Hospital Yenkapally, Moinabad, RR district Telangana state
<b>K Dayasagar Reddy</b>	Professor of Ophthalmology Bhaskar Medical College/ Bhaskar General Hospital Yenkapally, Moinabad, RR district Telangana state
<b>Mohammed Ather*</b>	Professor of Ophthalmology Bhaskar Medical College/ Bhaskar General Hospital Yenkapally, Moinabad, RR district Telangana State *Corresponding Author

### ABSTRACT

**Aim:** To study surgical outcome of Pterygium excision followed by 2 clock hours of 2mm narrow strip of Conjunctival Limbal auto graft with no suture and no glue technique.

**Materials and Methods:** This is a prospective interventional study conducted at the department of Ophthalmology of Bhaskar general hospital during September 2017 to May 2018. 36 patients above 20 years of age of both sex with Primary pterygium were included in the study. Patients with recurrent Pterygium, Double headed Pterygium and Pterygium associated with other Conjunctival disease were excluded from the study. All cases were examined by an experienced Ophthalmologist using Slit lamp. Surgical profile was done. Pterygium was excised under topical anaesthesia using 0.5% of Proparacaine and Injection of 2% Lidocaine intra-Pterygially. Crescent blade and Westcott's scissors was used to excise Pterygium. Then 2mm strip of 2 clock hours of CLAG harvested from supero temporal area was placed at the limbus of bare area after pterygium excision. Leaving water shed zone from graft to Caruncle. Pad and bandage was given and case followed after 1st, 3<sup>rd</sup>, 7<sup>th</sup> post operative day. Then they were followed every month till 6<sup>th</sup> month.

**Result:** 36 patients of which 18 were males and 18 were females. 3 patients had graft edema, 2 patients had sub graft hemorrhage, and 2 had recurrence. There is no graft loss in our series.

**Conclusion:** Pterygium excision with 2 clock hours of 2mm thick strip of CLAG with no suture and no glue is good technique with recurrence rate which matches with old technique of covering whole bare area with Conjunctival graft using suture or glue.

**KEYWORDS :** Pterygium, CLAG, Sutures, Glue.

### INTRODUCTION:

Pterygium means wing.<sup>1</sup> It is triangular fold of bulbar conjunctiva encroaching on cornea. Exposure to UV radiation is the trigger factor for development of Pterygium.<sup>2</sup> Dushku et al.<sup>3</sup> suggested dysfunction of Limbal epithelium stem cells as pathophysiological factor. There is loss of junctional barrier between conjunctival and corneal epithelium and centripetal migration of mutant (Pterygium) epithelial cells resulting in migrating Limbus. Other theories include change of Apoptotic pathway and presence of active Angiogenic factors, MMP, Cytokines and growth factors.<sup>3</sup> The classic pathological feature of Pterygia is Elastotic degeneration of Sub epithelial substantia propria.<sup>4</sup> The Pterygium can be classified on involvement of cornea as:

Grade I: Pterygium crossing Limbus

Grade II: Pterygium midway between Limbus and pupillary margin.

Grade III : Pterygium encroaching pupillary area.

Grade IV : Pterygium crossing pupillary area.

### MATERIALS AND METHODS:

This is a prospective interventional study conducted at Department of Ophthalmology of Bhaskar general hospital. The study was conducted between September 2017 and May 2018. 36 cases above the age of 20 years of which 18 were males and 18 were females having primary Pterygium were included in study. Patients with recurrent Pterygium, double headed Pterygium and those who were having other conjunctival diseases were excluded from study. Institutional ethics committee approval was obtained for this study. Informed consent was obtained from all patients. All patients were examined by an experienced Ophthalmologist using Snellen's chart, Slit lamp, Direct and Indirect Ophthalmoscope. Basic surgical Profile investigations with Clotting and Bleeding times was done. Surgical excision of Pterygium was done under topical anaesthesia using Proparacaine 0.5% eye drops and Injection of 2% Lidocaine intra pterygially. Pterygium was excised along with Tenons capsule using Crescent blade, Hoskin's forcep and Westcott's scissors. The 2 clock hours of 2 mm strip of Conjunctiva was harvested from supero temporal region

including stem cells. This strip was placed at the limbus of bare area created by excising Pterygium with stem cells nearer to cornea. The water shed zone was left bare between the CLAG and caruncle. The strip got stuck with serum to the limbus. Pad and bandage was applied which was removed after 24 hours. The cases were followed up on 1st, 3<sup>rd</sup>, and 7<sup>th</sup> post operative day. Then they were followed every month for 6 months.

### RESULTS:

Of 36 cases 3 had graft edema, 2 had sub graft hemorrhage and 2 had recurrence. There is not a single case of graft loss even though no suture or no glue was used.

### DISCUSSION:

William J, Duppas et al.<sup>7</sup> followed similar technique on 20 cases and had recurrence of 5.3%. In present study we got 5.5% of recurrence.

Other studies in which whole bare area was covered by CLAG without leaving watershed zone had recurrence between 1.9% to 6.7%.

### CONCLUSION:

This technique of using 2 clock hours of 2mm strip of conjunctival limbal autograft without suture or glue is good. The recurrence rate is matching with the old technique of covering whole bare area with CLAG. The advantage of this technique is minimal donor conjunctiva is used which will not lead to scarring of conjunctiva of donor site.

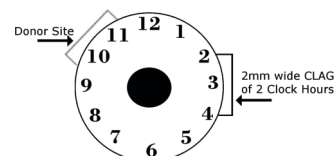
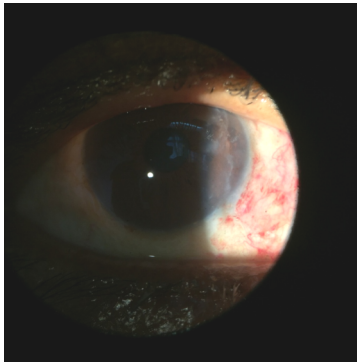


Fig.1 showing donor site and recipient site of CLAG



**Fig.2 showing CLAG strip with intervening watershed zone.**



**Fig.3 1st PO day**



**Fig.4 appearance after 6 months.**

Financial interest : Nil

Conflict of interest None.

Article to be cited as Madhura, Mohammed Ather et al.

**REFERENCES:**

1. Wolfe's Anatomy of eye and orbit, Chapman and Hall, 8th Edition 1997:1-19
2. D J Morgan and Coroneo MT et al Pterygium and UV radiation: A positive corelation, BJO1993 Nov(11):734-739
3. H R Taylor et al, Long term effect of visible light on eye: Archives of Ophthalmology,1997Oct,115(10):1235-1240
4. N Dushku et al IHC evidence that Human Pterygium originate from an invasion of Vincentin expressing altered epithelium basal cells, Current eye research 1994 July,13(7):473-481
5. Stefania C et al, Etiopathogenic aspects of development andevolution of Pterygium, Oftalmologia 2008,52(2):29-34
6. Robins basic pathology Elsevier, 10th edition
7. Williams J, Duppas et al