DOI: 10.14260/jemds/2014/2340

ORIGINAL ARTICLE

PTERIGIUM AUTOGRAFT WITH NO SUTURES AND GLUE

Jyothi N. Sanganal[1], Manish K[2], Sowmya K. V[3]

HOW TO CITE THIS ARTICLE:
Jyothi N. Sanganal, Manish K, Sowmya K. V. "Pterigium Autograft with No Sutures and Glue". Journal of Evolution of Medical and Dental Sciences 2014; Vol. 3, Issue 14, April 07; Page: 3670-3672,
DOI: 10.14260/jemds/2014/2340

ABSTRACT: During the past decade, the debate over the best approach to pterygium surgery has centered on whether surgeons should use sutures or fibrin glue to affix the conjunctival graft. Both approaches have their pros and cons in terms of such factors as surgical time, postoperative complications, cosmesis and recurrence[1]and now comes the latest twist: a novel approach in which the patient's own blood is used for fixation. It's simple, cheap technique but requires patience.
KEYWORDS: Graft, suture,glue

SUTURES, GLUE VS AUTOGRAFT:

Sutures: Conjunctival autografts using sutures are the gold standard method. On the plus side, the grafts are stable and the recurrence rate approximately 15 percent. As for the cosmetic result, it's acceptable but not wonderful.[2]

On the minus side, the surgery itself can run 30 to 40 minutes and suture-related problems include postoperative discomfort, chronic inflammation and granuloma formation.

Fibrin Glue: More recently, the use of fibrin glue for suture-free conjunctival auto grafts has made significant inroads. Surgical time is roughly half that of the traditional sutured approach and patients report less postoperative pain and discomfort.[2]

However, the glue itself is more expensive than sutures, and it can be difficult to obtain in some countries. And because fibrin glue is a blood-derived product, it carries the potential risk for transmission of viral and prion diseases and risk of dehiscence.

Theoretically, the rate should be lower with fibrin glue, given its ability to reduce inflammation. Nonetheless, the rate appears to be between 10 and 15 percent.

Autograft: The newest approach is auto blood graft fixation, a technique also known as autologous graft. The exaggerated symptoms of eye irritation - tearing, redness, foreign body sensation - in the postoperative period of grafting can be taken care by the use of fibrin glue but the cost, availability and associated potential risks are constant problems. In comparison, autologous blood is natural, has no extra cost or associated risks, and can overcome the postoperative irritations to a great extent.[1-8.]

With this approach, after the pterygium and associated conjunctiva are excised, the surgeon allows a thin film of blood clot to form over the bare area. Any active bleeding is stopped by direct tamponade. Next, a thin, Tenons-free conjunctival autograft, with inclusion of limbal stem cells, is fashioned. After the graft is aligned, it is placed over the blood film in the bare area, and the edges are held with forceps, usually for three to five minutes, to give adequate time for graft fixation to occur.

In a study by Dr. Mitra - a prospective, noncomparative, interventional case series conducted in India - 19 patients underwent autoblood graft fixation. Of these 19 patients, 17 had primary pterygia; two had recurrent pterygia. The mean surgical time was 11 minutes, no grafts were lost,

DOI: 10.14260/jemds/2014/2340

and none of the pterygia recurred in the study's six months of follow-up. Two patients experienced a medial edge recession, Dr. Mitra reported.

In our study, we performed Pterigium excision with autograft in 25 patients with primary Pterigium. Patients with no history ofhypertension or diabetes or any bleeding disorders were selected. Most of our pts were in the age group of 25-45 years. Males were more than females as they get exposed to sunlight more than females.

Preoperative preparation was done as with other ocular surgeries, eye lash trimming, and lignocaine test dose.

Anesthesia: Peribulbar anesthesia though topical anesthesia will suffice.

Surgery: Pterigium was excised as usual with the help of forceps and conjunctival scissors. Superficial keratectomy was done in cases of advanced pterigium involving cornea. Oversized thin graft (about 1mm) was taken from superotemporal region without tenon's with limbal stem cells. It is repositioned over the bed with polarity maintained i.e. limbal side should approximate limbal side. It is held in that position for at least 5 minutes with lids closed for fixation.After 5 minutes graft was checked for its position and eye was closed as usual.

Check points:

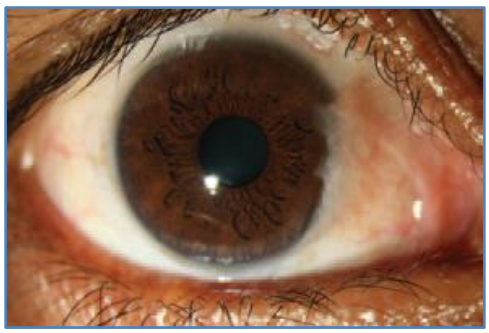
- Graft shouldn't get reversed while repositioning.
- There shouldn't be any blood clot over graft bed.
- And if graft size is too much it can be excised or tugged within the conjunctival fold at the excised margin of Pterigium.

In non cooperative patients 2 stay sutures can be placed at upper and lower margin of the graft.

POST OP: Bandage was removed after 24 hrs. Most of the grafts were in situ except in 3 cases; medial dehiscence of graft was seen.

Follow up: Patients were followed for next six months for graft loss, granuloma formation and for any recurrence.

Cosmesis was good in all cases.



Preoperative Photo

Postoperative Photo

DOI: 10.14260/jemds/2014/2340

REFERENCES:

1. Pan HW et al. Comparison of fibrin glue versus suture for conjunctival autografting in pterygium surgery: a meta-analysis. Ophthalmology. 2011; 118(6): 1049-1054.
1. Hirst LW. Extensive Incision and Conjunctival Transplantation for Pterygium: Results of 1,000 Surgeries. Presented at World Cornea Congress; April 7-9, 2010; Boston.
2. Mitra S et al. Autoblood as Tissue Adhesive for Conjunctival Autograft Fixation in Pterygium Surgery. Poster presented at the Annual Meeting of the American Academy of Ophthalmology; Oct. 22 and 23, 2011; Orlando, Fla.
3. Gulani AC. Corneoplastique. Techniques in Ophthalmology 5(1): 11-20, 2007. Kunimoto, Derek; Kunal Kanitkar, and Mary Makar (2004).
4. The Wills eye manual: office and emergency room diagnosis and treatment of eye disease. (4th ed.). Philadelphia, PA: Lippincott Williams & Wilkins. pp. 50–51. ISBN 978-0781742078.
5. MacKenzie FD, Hirst LW, Kynaston B, Bain C. Recurrence rate and complications after beta irradiation for pterygia .Ophthalmology 1991; 98: 1776-80.
6. Starck T, Kenyon KR, Serrano F. Conjunctival autograft for primary and recurrent pterygia: surgical technique and problem management. Cornea 1991; 10: 196-2
7. Singh G, Wilson MR, Foster CS. Long-term follow-up study of mitomycin eye drops as adjunctive treatment of pterygia and its comparison with conjunctival autograft transplantation. Cornea 1990; 9: 3314.

AUTHORS:

1. Jyothi N. Sanganal
2. Manish K.
3. Sowmya K. V.

PARTICULARS OF CONTRIBUTORS:

1. Assistant Professor, Department of Ophthalmology, ESIC Medical College & Hospital, Gulbarga, Karnataka.
2. Assistant Professor, Department of Forensic Medicine & Toxicology, ESIC Medical College & Hospital, Gulbarga, Karnataka.
3. Consultant Ophthalmologist, Department of Ophthalmology, District Hospital, Yallapur, Karnataka.

NAME ADDRESS EMAIL ID OF THE CORRESPONDING AUTHOR:

Dr. Jyothi N. Sanganal,
Assistant Professor,
Department of Ophthalmology,
ESIC Medical College & Hospital,
Gulbarga, Karnataka.
E-mail: jyothi2406@rediffmail.com

Date of Submission:17/02/2014.
Date of Peer Review: 18/02/2014.
Date of Acceptance: 24/02/2014.
Date of Publishing: 03/04/2014.