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Case Study

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SUTURELESS GLUELESS PTERYGIUM SURGERY: A CASE SERIES

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ABSTRACT

Pterygium is a fibrovascular growth of an abnormal conjunctival tissue that progressively encroaches the limbus and then onto the cornea invading its superficial layers. It is a common ophthalmic condition seen mostly in dry, dusty areas. Pterygium occurs predominantly on the nasal limbus, although temporal pterygium rarely occurs in isolation. UV light may produce damage to the cellular DNA, RNA, and extracellular matrix and may induce expression of cytokines and growth factors important in the development of pterygium.[1] The active processes include inflammation, tissue invasion and degradation, angiogenesis, fibrosis, proliferation and apoptosis with involvement of matrix metalloproteinases (MMPs), cytokines, and growth factors (GFs). The presence of an inflammatory mass on the ocular surface may predispose the patient to a "pseudo-dry eye syndrome".[2] Multiple methods have been describes for pterygium removal including bare sclera technique, sutured conjunctival grafting, conjunctival grafting using glue and sutureless and glueless grafting. Conjunctival autografting after pterygium excision seems to be the best method, giving both long-term safety and effectiveness in reducing the recurrence rate (2% – 39%).[3] We present a case series of patients with the glueless and sutureless pterygium surgery technique.

KEYWORDS: Pterygium, glueless and sutureless pterygium.

CASE SERIES

We operated 6 patients with pterygium with sutureless, glueless conjunctival autograft. **Preoperative evaluation**: (i) History taking: Onset, course and duration of pterygium formation progression, history of any ocular trauma, ocular surgery, systemic disorder and drug intake. (ii) General examination: Review for systemic diseases as diabetes mellitus, hypertension, bleeding tendency and liver diseases. (iii) Laboratory investigation:Complete blood count (CBC), coagulation profile (CP), fasting plasma glucose, 2 hours postprandial blood glucose (PPG), liver and kidney function tests. (iv) Preoperative ophthalmological examination: All patients underwent complete ophthalmic examinations.

Surgical Technique: At the operating table the affected eye was cleaned and draped, and a drop of topical anesthetic is instilled. Firstly, the wire speculum was applied over operated eye. Also, ocular sterilization with a drop of Povidine Iodine 5% was used. The initial incision was made into the body at a point (2-4 mm) distal to the limbus which would generally involve most of the pterygium, then the body of pterygium was totally dissected in retrograde manner including conjunctiva and Tenon's capsule till reached the limbus. Excision of the head after the incision into the body then removal only the affected tissue with the affected corneal part by using Colibri forceps in continuous circular technique. We measured the scleral area to be covered by caliber. When the area to be covered is less in size, the more successful the graft would be. Then curettage was applied over sclera and excised corneal parts by using blade 15 or crescent blade till the sclera became avoided of conjunctiva and Tenon's capsule and the cornea became completely clear. Harvesting the free graft done from the superior aspect of the conjunctiva. We used blunt dissection to avoid buttonholing the graft after marking the size of the graft. The graft was excised from the upper bulbar conjunctiva by scissor through removing of conjunctiva and leaving Tenon's capsule after to measure the excised part and adding 1 mm over excised part. The last part of graft to be removed was the limbal part by blade 15 or crescent blade. Positioning the free graft done without it losing contact with the host surface. It is imperative to lay it flat on the moistened cornea with the sub conjunctival side down and then slide it into position on the scleral bed. The original limbal edge was opposed to the cornea at the corresponding limbus. Stretch the graft at the limbus so it maintains contact. It was covered the exposed sclera entirely and slightly overlap the cut edges of the conjunctiva. Fixation the free graft in place and applied over bare sclera by tying forceps and squeezing the graft by using hock about 5 minutes till be sure that it became stable. The wire speculum was removed carefully. The the tight bandage was applied for

next 48 hours without removal except during treatment. After the operation all patients were received the same standard medications for 4 weeks, consisting of an eye drops combination of (0.3% Tobramycin and 0.1% Dexamethasone) and antibiotic (Moxifloxacin 0.3%) eye drops and tear substitutes beginning with five times daily and tapered gradually every 5 days.

DISCUSSION

According to treatment, surgical excision, which is the treatment of choice for pterygium, can be divided into 2 types: simple excision (the bare-sclera technique) and excision with grafting (conjunctival or amniotic membrane grafting). Recurrence is the most common undesirable outcome of pterygium excision. Several factors increase the recurrence rate after surgery, such as the activity of the pterygium.[4] The advantages of "bare sclera technique" are easy procedure, has the least surgical time among all procedures and least post-operative discomfort.[5] "Conjunctival autograft" is the surgeon's preference for primary degenerative pterygium in older eyes with thin conjunctiva and no glaucoma and for degenerative recurrences. In the absence of double headed pterygium and there may not be enough tissue available for the required two wounds, this procedure is considered by many surgeons to be the gold standard for prevention of recurrence after pterygium surgery.[6]

CONCLUSIONS

It could be concluded that sutureless glueless conjunctival autograft technique is a safe, simple, easy to perform, has less surgical time and very effective for the management of primary pterygium. This procedure had no more complications associated with sutures and glue of other pterygium excision procedures, with less postoperative discomfort, fast healing and economical option for the management of primary pterygium surgery with less recurrence rate.

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