Autologous Scleral Flap Technique to Repair Exposed Sutures after Transscleral Suture Fixation of an Intraocular Lens

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Abstract:
Exposure of the suture after transscleral suture fixation of posterior chamber intraocular lenses is a known late complication that typically requires intervention. Patch grafts of sclera, cornea, or pericardium have been described. We describe a novel autologous scleral flap to cover an exposed 10–0 polypropylene suture. This technique requires no exogenous graft material and avoids the risks of intraocular manipulation of the lens. Every effort should be made to avoid external exposure of the suture, but in cases that develop suture erosion, an autologous scleral flap may be a useful intervention.

Keywords:
Graft, scleral fixation, secondary lens

Introduction
Intraocular lens (IOL) implantation is a common treatment of aphakia after cataract removal. In the absence of capsular support, lenses may be placed in the anterior chamber, the ciliary sulcus, fixated to the iris, or fixated to the sclera. In the transscleral suture fixation of posterior chamber IOL (SF-PCIOL) technique, there is less trauma to the iris and cornea compared to anterior chamber implantation, which likely decreases the risk of corneal decompensation.¹ Postoperative suture erosions after scleral-fixated IOL occur when the suture tag is exposed, causing irritation to the conjunctiva. Suture erosions may result in foreign body sensation, granuloma formation, and may increase the risk of intraocular infection. These erosions typically require surgical intervention; many techniques have been described for the repair of the exposed suture,²³ most of which require exogenous patch graft material. We describe a novel autologous scleral flap technique for the repair of suture erosion after SF-PCIOL.

Case Report
A 29-year-old patient was previously diagnosed with bilateral lens subluxation secondary to Marfan syndrome, and underwent pars plana vitrectomy, pars plana lensectomy, and SF-PCIOL in each eye sequentially. Approximately 1 year later, she presented to the clinic with exposure of a short tag from the 10–0 polypropylene suture. The knot appeared to be on the surface of the sclera, with short suture tags. After discussion of the risks and benefits of scleral patching, the patient elected to proceed with surgery.

Surgical technique
After adequate peribulbar anesthesia, a conjunctival peritomy was created, and...
the conjunctiva was carefully dissected away from the suture [Figure 1a], taking care not to cut the suture. A 3 mm × 3 mm scleral flap was created posterior to the suture exit site, and flipped to cover the exposed suture [Figure 1b]. The flap was anchored with 10–0 nylon sutures and the conjunctival peritomy was closed with 7–0 polyglactin. Postoperatively, the conjunctiva was intact over the surgical site, and the scleral autograft was in place with no recurrence of exposure [Figure 2]. The patient was satisfied with the cosmetic appearance of the repair.

Discussion

Erosion of the suture after intraocular suture fixation is best prevented; rotation of the knot inside the eye,[4] leaving the subconjunctival suture tag ends long, intrascleral haptic fixation,[5,6] and creation of scleral flaps or pockets[7] are alternative techniques that may reduce the risk of late suture erosion.

There are many surgical techniques for the management of exposed polypropylene sutures after SF-PCIOL. Sclera or pericardium patch grafts are readily available and effectively cover an exposed suture. A variation of this technique utilizes a corneal graft to cover the exposed surgical knots.[2] Another technique that has been reported is cauteryization of the suture tag.[3] Removal of the suture and refixation can also be considered but incurs the added complexity and risk of intraocular maneuvers.

We describe a simple technique of an autologous scleral flap for the repair of postoperative suture erosion, which avoids the cost of exogenous patch material while adequately covering the suture knot. Another aspect of scleral patch grafting that has not been studied adequately is the cosmetic appearance; in the authors’ experience, these grafts are often very noticeable and a cause of dissatisfaction among patients. Most importantly, any of the external patching techniques avoid entering the eye to perform repeat suture fixation, with the associated risks of intraocular surgery such as infection and bleeding.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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