Management of dislocated transscleral fixated intraocular lens with one-side broken polypropylene suture

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This video demonstrates the successful surgical technique for refixation of the same intraocular lens (IOL) by tying the same IOL to the sclera with the help of 9-0 polypropylene suture. A 62-year-old male patient presented with sudden loss of vision in the left eye. He had a history of undergoing transscleral fixation of intraocular lens (TSFIOL) using 10-0 polypropylene suture 13 years back for posttraumatic-dislocated nucleus. On examination, we noticed that he had IOL dislocation due to spontaneous breakage of suture of one of the haptic. The other haptic suture was intact. The long-term complication associated with TSFIOL procedure is breakage of the polypropylene suture leading to subluxation or dislocation of the IOL. We used closed-globe approach to successfully fixate the involved haptic of the same IOL. No intraoperative or postoperative complication was encountered in three such cases.

Key words: Broken haptic, dislocated, trans-scleral fixate IOL

Transscleral fixation of intraocular lens (TSFIOL) is indicated, where there is an absence of adequate capsular support. In 1980, Malbran et al.[1] first published the technique of sutured TSFIOL using 10-0 polypropylene. There have been various modifications in materials and techniques since then. One of the major complications is suture breakage, which can occur spontaneously or due to trauma.[2] To prevent this, there is an increase in the use of 9-0 polypropylene[3] or 7-0 Gortex[4] suture. Here, we describe the technique for refixation of TSFIOL where it has dislocated into the vitreous cavity due to suture breakage.

Case

A 62-year-old male (case #1) presented with sudden onset loss of vision in the left eye (LE). He had a history of traumatic dislocation of the crystalline lens for which he underwent pars plana vitrectomy with phacofragmentation of nucleus and TSFIOL fixation using 10-0 polypropylene suture, 13 years back. On examination, his TSFIOL was found to be dislocated because of broken suture of one of the haptic. The other haptic suture was intact. His aphakic best-corrected visual acuity was 20/40 in the LE. After informed consent, patient was taken up for refixation surgery. The previous operative notes indicated that transscleral sutures were placed at 1.30 and 7.30 o’clock (with breakage of 1.30 o’clock suture).

Surgical Technique

Fig. 1 and the video demonstrate the salient steps of the surgical technique. Please refer to video 1 for the detail surgical technique. Localized conjunctival peritomy was done at 1.30 o’clock and a partial thickness scleral flap was made with a crescent knife. Standard 25 gauge three sclerotomy ports were made at 3 mm from limbus at 2, 4, and 10 o’clock position, infusion attached to 4 o’clock port. Three limbal incisions were given at 2 o’clock, 8 o’clock, and 10 o’clock positions with MVR knife. A 25-gauge end-gripping forcep was inserted through the 2 o’clock sclerotomy port and the subluxated haptic was lifted. Another end-gripping forcep was inserted through limbus from 10 o’clock and IOL haptic was held with that just behind the iris plane. A long needle of 9-0 polypropylene suture was inserted through scleral bed under the scleral flap, 1.5 mm from limbus. It was then passed through the eyelet of the IOL and brought out through the opposite limbus (at 8 o’clock) with the help of 26-gauge needle using railroad technique. The same long needle of polypropylene suture was passed back through the same limbal port and taken out through the scleral bed with the help of 26-gauge needle. The suture was tied to the sclera refixing the same TSFIOL. The scleral flap was sutured with...
10-0 nylon suture. It was followed by peritomy closure, limbal port hydration, and the scleral ports suturing.

**Results**

This technique of refixation of dislocated TSFIOL was performed in 3 eyes (three patients). In all the eyes, the TSFIOL was successfully repositioned. No intraoperative or postoperative complications related to the procedure occurred. The preoperative corrected distance visual acuity (CDVA) was 20/40 in all three eyes, the postoperative CDVA ranged from 20/20 to 20/40. None of these eyes lost visual acuity. At the last follow-up, the IOLs were well-centered in all eyes.

**Discussion**

One of the potential shortcomings of this procedure is the risk of suture breakage of the other haptic during surgical manipulation or in the future. This can be tackled by cutting other suture in the same sitting and reapplying again or exchanging it with new three-piece IOL using glued IOL fixation or Yamane technique. However, abovementioned procedures are associated with complications such as bleeding from ciliary body while cutting polypropylene suture, astigmatism (large limbal incision to explant the rigid IOL), corneal endothelium damage, and prolonged surgical time. In this paper we describe a closed globe technique for refixation of subluxated TSFIOL. Our technique helps in refixing the same TSFIOL in a closed globe, with minimal trauma to the eye. It is safer, doesn’t induce significant astigmatism, and reduces financial burden on the patient as the same TSFIOL is refixed.

**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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Nil.

**Conflicts of interest**

There are no conflicts of interest.

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