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Extraocular needle-guided haptic insertion technique of scleral fixation intraocular lens surgeries (X-NIT)

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The most challenging step in sutureless scleral fixation of intraocular lens (SFIOL) is exteriorization of haptics. The conventional handshake technique has a learning curve since it involves intraocular handing over of haptics from one forceps to another. Here, we describe “extraocular needle-guided haptic insertion technique” (X-NIT), a novel technique of exteriorizing haptics that totally eliminates intraocular manipulations. This method involves sequential introduction of two bent 26-gauge needles through the sclera (pars plicata zone) into the eye which are brought out through a sclerocorneal wound. The intraocular lens haptics are threaded through these needles and exteriorized. Nineteen consecutive patients underwent surgery by this technique. There were no intraoperative complications. The mean best-corrected visual acuity (BCVA) of these patients at 1-month follow-up was 0.5 ± 0.3 (logarithm of the minimum angle of resolution) with 18 of 19 eyes showing one or more lines of improvement in BCVA. X-NIT is a safe, easy, cost-effective, and highly reproducible technique, especially for beginners.

Key words: Aphakia, extraocular, scleral fixation of intraocular lens, extraocular needle-guided haptic insertion technique Scleral fixation of intraocular lens (SFIOL) surgery has come a long way since its inception. Conventionally, suture fixation of the intraocular lens (IOL) was practiced. Then, came sutureless SFIOL surgery to avoid suture-related problems.[1] Various techniques exist to secure the exteriorized haptic of the IOL.[1-5] However, exteriorization of the haptics in the first place is a challenging step. The conventional handshake technique has a learning curve since it involves intraocular handing over of haptics from one forceps to another. This step becomes particularly difficult in the setting of small pupil or corneal scar. Here, we describe extraocular needle-guided haptic insertion technique (X-NIT), a minimally traumatic, easy, and quick method of exteriorizing the IOL haptics during SFIOL implantation.

Results All surgeries were performed by a single surgeon (PB) on 19 eyes of 19 patients. Table 1 shows demographic and preoperative data. The mean best-corrected visual acuity preoperatively was 0.5 ± 0.3 logarithm of the minimum angle of resolution (LogMAR) units which improved by one or more lines postoperatively in all, but one eye that had preexisting corneal pathology. Table 2 summarizes the visual outcome of our patients. Intraoperative complications such as haptic slippage, IOL drop, and intraocular rebound of leading haptic were not encountered. Postoperative complications such as serous choroidal detachment, wound leak, IOL decentration, or retinal detachment were not encountered. Transient corneal edema occurred in three patients, dispersed vitreous hemorrhage in one patient, and postoperative hypotony in another, all of which resolved by the end of the first postoperative week

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