Efficacy of modified 360-degree suture trabeculotomy technique for pseudoexfoliation glaucoma

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Purpose: In this prospective study, we aimed to investigate the affectivity and safety of a modified 360-degree suture trabeculotomy technique in patients with pseudoexfoliation glaucoma (XFG).

Methods: The modified 360-degree suture trabeculotomy was performed on 15 eyes of 15 patients with XFG resistant to maximal topical treatment. In all cases, we have used the same surgical method as described by Chin et al. In five patients suture trabeculotomy was combined with cataract extraction and IOL implantation. Main outcome measures were the mean postop IOP, glaucoma medication usage, best corrected visual acuity (BCVA), and the operative complications.

Results: The mean follow-up period was 8 months (range 6-12 months). At baseline, the mean IOP and number of antiglaucoma medications were 28.53 ± 9.86 mmHg and 3.30 ± 0.63 respectively. At last visit, the mean postoperative IOP and number of anti-glaucoma medications significantly decreased to 13.53 ± 2.78 mmHg (p = 0.01) and 0.37 ± 0.15 (p < 0.01). The rate of the postoperative IOP reduction at postoperative 6 months was 53.57%. There was no significant difference between preoperative BCVA and postoperative BCVA (p = 0.92). Using this modified method, the entire circumference of Schlemm canal was incised without resistance. Intraoperative hyphema (in all cases), intraoperative iris prolapse (in 3 cases), transient elevation of the IOP (in one case), posterior synechia (in 2 cases), and peripheral anterior synechia (in one case) were noted.

Conclusions: The modified 360-degree suture trabeculotomy appears to be a valuable option for the surgical treatment of XFG. Future studies are needed to explore the remote side effects and the long-term effects of this procedure on IOP.