Comparison of filtering bleb survival and intraocular pressure between combined phacotrabeculectomy and trabeculectomy in primary open-angle glaucoma and primary angle-closure glaucoma

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Purpose: To evaluate clinical results of combined phacotrabeculectomy (PHACO-TRAB) and trabeculectomy (TRAB) by comparing duration of filtering bleb survival and intraocular pressure (IOP).

Methods: Forty two eyes of 42 patients of primary open-angle glaucoma (POAG) and 60 eyes of 60 patients of primary angle-closure glaucoma (PACG) were studied retrospectively. Fifty two patients underwent PHACO-TRAB (20 POAG and 32 PACG) and 50 patients underwent TRAB (22 POAG and 28 PACG). We compared IOP, number of anti-glaucoma medication, and duration of filtering bleb survival for 3 years after surgery.

Results: In both groups, the IOP and the number of glaucoma medications were significantly reduced for 3 years compared to those before surgery (p < 0.01, 1-way ANOVA test). Until 12 months after surgery, TRAB group maintained significantly lower IOP than PHACO-TRAB group (p < 0.05), and there was no significant difference after 12 months. The rate of filtering bleb survival was significantly higher in TRAB group during study period. In patients with POAG, TRAB group maintained significantly lower IOP until 12 months after surgery, but there was no significant difference after 12 months. TRAB group showed higher rate of filtering bleb survival than PHACO-TRAB group for 3 years. In patients with PACG, TRAB group maintained lower IOP until 6 months after surgery, and there was no difference at 12 months. However, PHACO-TRAB group showed significantly lower IOP at 18 months and 36 months after surgery. There was no significant difference in filtering bleb survival between 2 groups in PACG.

Conclusions: TRAB and PHACO-TRAB were effective in lowering IOP in both POAG and PACG for 3 years after surgery. In POAG, TRAB was more effective in lowering IOP and maintaining filtering bleb compared to PHACO-TRAB. In PACG, there was no difference in filtering bleb survival between 2 groups. However, TRAB was more effective to maintain low IOP until 6 months after surgery, but PHACO-TRAB was superior to TRAB beyond 1 year after surgery in PACG group.