**COMPARISON OF SURGICAL OUTCOMES: CANALOPLASTY VERSUS TRABECULECTOMY AT 12 MONTH FOLLOW-UP**

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**Purpose:** The purpose of this study was to compare surgical outcomes of patients following canaloplasty and trabeculectomy at 12 month follow-up.

**Methods:** 33 eyes in 33 patients who underwent canaloplasty and 46 eyes in 46 patients who underwent trabeculectomy with 12 months postoperative follow-up were included. All surgeries were performed by the same surgeon (RA). Main outcome measures: Change in intraocular pressure (IOP), visual acuity, postoperative medications, failure based on IOP (>18 mmHg or < 4 mmHg at one year) or second surgical procedure (any eye requiring re-operation) and complication rates at 12 months.

**Results:** There were no differences in demographics, previous surgery, pre- and post-operation visual acuity between the groups. The mean percentage reduction in IOP from preoperative values at 12 months after surgery was 32% (+22%) for the canaloplasty group compared to 43% (+28%) for the trabeculectomy group. (P=0.72, Student t-test). The median reduction in the number of medications at 12 months follow-up was greater with trabeculectomy than canaloplasty (median reduction: 3 vs 2) almost reaching significance (P=0.12). Failure based on IOP (IOP> 18 mmHg or < 4 mmHg at 12 months) was 12.1% (4 of 33 patients) for the canaloplasty group and 4.3% (2 of 46 patients) for the trabeculectomy group (P=0.23, Fisher’s exact test). There was no difference in surgical failure rates between the canaloplasty (n=5, 15%) and trabeculectomy (n=5, 11%) groups (P=0.74).

**Conclusion:** Canaloplasty and trabeculectomy both achieved significant reduction in IOP at 12 months. Percentage reduction in IOP at 12 months is somewhat greater following trabeculectomy, with fewer patients requiring postoperative medications. These results need to be confirmed by large prospective studies. The absence of a bleb (bleb-related complications) with zero incidence of complications such as hypotony, maculopathy and choroidal effusions make canaloplasty a very attractive option for glaucoma patients.

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