Endothelial Cell Density and Loss Following Ab-Interno Canaloplasty in Patients with Mild-Moderate Glaucoma as Compared to Severe Glaucoma

Poster

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Purpose: To evaluate endothelial cell density and IOP reduction of ab-interno canaloplasty using the iTrack (Nova Eye Inc., Fremont, USA) combined with cataract surgery over 12 months in patients with mild-moderate glaucoma as compared to severe glaucoma and in controlled vs uncontrolled.

Method: Prospective, multicenter registry study in the USA, including patients undergoing ab-interno canaloplasty combined with cataract surgery were recruited. Specular microscopy was performed preoperatively and at 6, 12 and 24 months postoperatively. Standard metrics for glaucoma surgery follow-up were also measured including visual acuity, intraocular pressure, visual fields, optic nerve optical coherence tomography (OCT) and glaucoma medication use. Endothelial cell density and loss (ECD and ECL) were analyzed at each time point and eyes were categorized between baseline mild to moderate versus severe glaucoma and baseline controlled IOP with medications (≤18mmHg) versus uncontrolled (>18mmHg).

Results: 77 eyes of 46 patients (mean age: 74.7±6.8) were recruited. There was no difference in ECD between the mild-moderate and severe groups at baseline (2292±395 and 2329±285 respectively; p=0.7), 12 months (2236±382 and 2215±293; p=0.8), or in terms of ECL (76±161 and 91±151; p=0.7). Likewise, there was no difference in ECD between the IOP controlled and uncontrolled groups at baseline (2305±372 vs 2302±354, respectively; p=0.97) and 12 months (2241±371 vs 2212±334; p=0.74). Baseline IOP (mmHg) in the mild-moderate group and in the severe group was 17.9±3.3 and 17.5±3.6 respectively and was reduced to 15.0±2.9 and 14.4±2.9 at 12 months.

Conclusions: Ab-interno canaloplasty performed in conjunction with cataract surgery causes no significant change in endothelial cell density across all grades of glaucoma severity or baseline IOP up to 12 months postoperatively.

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