AB025. One-year outcomes of trabecular micro-bypass stents with concomitant cataract surgery in primary angle closure glaucoma

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Background: Trabecular microbypass stents have allowed improved multidirectional flow with good efficacy and safety profile in primary open-angle glaucoma (OAG). The efficacy of these devices in primary angle closure glaucoma has been understudied. We aimed to assess the one-year postoperative outcomes following implantation of trabecular micro-bypass stents with concomitant cataract surgery in angle-closure glaucoma patients.

Methods: We evaluated the baseline clinical characteristics and the 12-month outcomes of patients with mild to severe primary angle-closure glaucoma who underwent cataract surgery with implantation of either a first generation trabecular microbypass stent (iStent group) or two second generation trabecular microbypass stents (iStent-inject group). The primary outcomes included intraocular pressure (IOP) and anti-glaucoma medication use. The secondary outcomes were success rate (defined by IOP between 5–18 mmHg with IOP reduction of at least 20%) and visual acuity.

Results: A total of 83 eyes (58 from the iStent and 25 from the iStent-inject group) were included with an average age of 68.9±8.6 and 67.6±8.3 years, respectively. All eyes had mild to severe angle-closure glaucoma. At one-year follow-up, the IOP decreased by 21% (from 18.8±4.5 mmHg) and 25% (from 18.7±3.6 mmHg), in each group respectively (P<0.001). Additionally, the medication burden dropped by 52% and 50% at one-year follow-up (P<0.001). The 12-month success rate was 45% in the iStent group compared to 64% in the iStent-inject group (P=0.086) and visual acuity remained stable.

Conclusions: The present study provides clinically relevant, real-world data on the utility of iStent and iStent-inject with cataract surgery in angle-closure glaucoma—a population that has been understudied in the world of trabecular micro-bypass stents. Our data demonstrated efficacy of these stents in reducing intraocular pressure and medication burden among patients with primary angle closure glaucoma.

Keywords: Glaucoma; angle closure; trabecular micro-bypass stents

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