

112 Phacoemulsification Combined With Trabecular Microbypass Stent (iStent) and Endolaser Cyclophotocoagulation (ECP)



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Purpose/Relevance

To evaluate the safety and efficacy of the iStent, cataract surgery, ECP procedure (ICE) in patients with glaucoma. Minimally invasive glaucoma surgery (MIGS) is not as effective in controlling intraocular pressure (IOP) as more invasive procedures. I evaluated ICE to see if further IOP control can be obtained.

Methods

Retrospective consecutive case series from 1/2013 to 12/2015. Preoperative (pre-op) data collected included peak IOP (prior to starting therapy), IOP at last pre-op visit, number of glaucoma medications (#GlMeds), and visual acuity (VA). This same data was collected at 3, 6, and 12 months postoperatively (post-op). Sequelae were also documented.

Results

Forty six cases on 38 patients were performed. Peak pre-op IOP was obtained on 22 (49%) cases. The average age was 76.7 years and 31 were female. The mean pre-op Peak IOP was 25.1 mm Hg and the mean pre-op IOP was 18.2 mm Hg. The mean pre-op #GlMeds was 2.3. Post-op mean IOP at 3, 6, 12 months were: 16.9, 16.6, 16.5 mm Hg respectively. Post-op #GlMeds at 3, 6, 12 months was 1.1, 1.0, 1.0 respectively.

The change from pre-op Peak IOP at 3, 6, 12 months was -9.1, -9.5, -9.4 mm Hg respectively. ($P=0.0001$) The change from pre-op IOP, at 3, 6, 12 months was -1.5, -1.8, -1.3 mm Hg respectively. ($P=0.005$) The change from pre-op #GlMeds at 3, 6, 12 months was -1.1, -1.3, -1.3 respectively. ($P<0.0001$)

Mean pre-op VA was 20/50 compared to 20/30 at last post-op visit. ($P<0.0001$) No patient had a decline in VA. Sequelae included rebound iritis (6, 13%), CME (2, 4%) which all resolved.

Discussion

Since all patients had their IOP at target prior to surgery and were on multiple drops, the main purpose of offering ICE was to reduce the #GlMeds. There was a slight decrease in IOP compared to pre-op IOP, but 18 of the 37(49%) patients were on no drops and 26 (70%) were only on 0 or 1 drop at 12 months. The main objective was met. There was a significant decrease in IOP compared to Peak IOP. The higher than expected incidence of post-op inflammation was likely secondary to the use of ECP that resolved with extended post-op steroid use.

Conclusion

Phacoemulsification combined with iStent and ECP is effective in lowering IOP and decreasing the #GlMeds while maintaining a high safety profile. Combining multiple MIGS warrant further investigation.

Reference

1. Samuelson TW et al. Randomized evaluation of the trabecular micro-bypass stent with phacoemulsification in patients with glaucoma and cataract. *Ophthalmology*. 2011 Mar;118(3):459-67.