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## **Glaucoma controlled with combined procedure**

**by Rich Daly EyeWorld Contributing Editor**

*Combined canaloplasty and phaco provides slightly better results than the glaucoma procedure alone*

**D**ilation and tensioning of Schlemm's Canal in combination with cataract surgery may be an effective surgical treatment for open angle glaucoma and visually significant cataract, according to a recent study.

Twelve-month results of canaloplasty combined with phacoemulsification cataract surgery were examined in a prospective multi-center study of the surgical treatment of open angle glaucoma. The data is slated for presentation at the April ASCRS•ASOA Symposium & Congress in Chicago.

The results were expected by the study authors, said Bradford J. Shingleton, M.D., assistant clinical professor of ophthalmology, Harvard Medical School, and Ophthalmic Consultants of Boston, because phacoemulsification has long provided successful visual acuity improvement, and canaloplasty is effective in reducing pressure and the need for glaucoma medicines for people who have glaucoma.

"We were very optimistic with those two facts in mind and putting them together for combined cataract surgery and canaloplasty that we would do well. We did, so there were no surprises," he said. The emerging canaloplasty procedure is non-penetrating surgery that involves circumferential dilation and tensioning of Schlemm's Canal, which aims to restore trabeculocanalicular aqueous outflow. The study focused on a subset of eyes in a prospective, international multi-center study of canaloplasty to treat open angle glaucoma which also presented with visually significant cataract.

Among the 57 eyes from 14 surgical centers treated, the study found a pre-op average IOP of 24.1 mm Hg with an average of 1.5 glaucoma medications. Three months after surgery, the average IOP was 14.2 mm Hg with 0.1 medications. By six months post-op, the average IOP fell to 13.1 mm Hg with 0.1 medications. At 12 months the average IOP was 14.0 mm Hg with 0.2 medications.

The study had no sight-threatening complications reported, and visual acuity on average improved by 0.2 LogMAR (about two lines), with no eye demonstrating a loss of visual acuity of 0.3 LogMAR (about three lines) or greater.

The most serious complications included Descemet's membrane separation (1.8%), post-op IOP spike greater than 30 mm Hg (1.8%), and iris prolapse (1.8%).

Among the notable findings of the study was that the IOP reduction with the combined procedure was slightly better than the larger study found with canaloplasty alone in patients not undergoing cataract surgery.

"That was very good news," Dr. Shingleton said. "I can't say it was anticipated but the fact is we had pretty good results."

He cautioned that the results are still relatively short term so patient follow-up over a longer period is needed, with more patients required to be certain.

Another notable feature of this approach is that pressure is controlled without creation of a bleb.

"Any surgical procedure that we can do without bleb formation is a major step forward for us," he said.

One limitation of the combined approach is that it did not produce the extremely low pressures that result from antimetabolite-enhanced glaucoma filters. So the procedure would be a poor fit for patients with advanced disease who need very large IOP reductions.

It does appear to suit patients who do not have advanced disease but have high pressures or need multiple medications, according to Dr. Shingleton.

The study was not designed to address whether patients should undergo combined or separate canaloplasty and phacoemulsification surgery. That is a complex and separate issue, he said. These findings aim only to address likely outcomes once a decision to use a combined procedure has been reached.

"When that has been decided upon, this clearly has good potential for treating these patients and coming out with a successful outcome," Dr. Shingleton said.

The full study is slated for publication in the March issue of the Journal of Cataract and Refractive Surgery.

**Editors' note:** *Dr. Shingleton is a consultant for iScience Interventional (Menlo Park, Calif.).*

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