Anticipation is key to managing intraoperative floppy iris syndrome

Complication rate is lower when surgeons are aware of tamsulosin use in cataract patients

By: Lynda Charters

San Francisco—Questioning patients before cataract surgery about whether they are taking alpha-1 blockers, such as tamsulosin (Flomax, Boehringer Ingelheim), has become increasingly important in light of the observation by David F. Chang, MD, and John R. Campbell, MD, that the drug, which is used to treat the symptoms of benign prostatic hyperplasia, can cause intraoperative floppy iris syndrome (IFIS). Dr. Chang reported at the recent American Society of Cataract and Refractive Surgery annual meeting that the complication rate is acceptably low when surgeons are forewarned about use of the alpha-blocker. Dr. Chang is clinical professor of ophthalmology, University of California, San Francisco, and is in private practice in Los Altos, CA. Dr. Campbell is in private practice in San Rafael, CA.

"When we first presented our observation of floppy iris syndrome about 1 year ago, one of the things we highlighted was the higher surgical complication rate," Dr. Chang said. He demonstrated a case in which the patient had a well-dilated pupil preoperatively that suddenly deteriorated into the classic IFIS triad of iris billowing, iris prolapse, and progressive miosis.

As Dr. Chang had reported previously, stopping the drug is often ineffective and pupil-stretching techniques may actually worsen the iris prolapse. The original paper by Chang and Campbell had reported a 12.5% incidence of posterior capsular rupture in a retrospective chart review.

"Four of the IFIS patients in our series had already undergone prior surgery of their contralateral eye at another institution. Fifty percent of these individuals had had posterior capsule rupture and vitreous loss in their first eye," Dr. Chang noted. Other surgeons conducting retrospective chart reviews found high complication rates with IFIS. Colleague Richard Beller, MD, Napa, CA, found that in five of his six total cases of posterior capsular rupture since 2000, the patients had been taking tamsulosin. Likewise, Bonnie Henderson, MD, affiliated with the Massachusetts Eye and Ear Institute, Boston, retrospectively reviewed all the cases in the resident database with a history of tamsulosin use. The review covered the 2 years immediately prior to the IFIS report, and five of the seven cases identified had had posterior capsule rupture.

"This raised the questions of what to tell our patients taking tamsulosin, what to tell colleagues in urology about prescribing the drug, and what would the complication rate be if surgeons knew in advance to anticipate the IFIS," Dr. Chang explained.

Prospective trial

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In light of these questions, Dr. Chang organized a prospective 10-site U.S. trial that started in 2005. A total of 167 consecutive patients undergoing cataract surgery and taking tamsulosin were enrolled over a 6-month period. Participating surgeons were asked to use one of four management strategies: 2.3% sodium hyaluronate (Healon5, Advanced Medical Optics [AMO]), iris hooks, pupil expansion rings, or atropine drops administered preoperatively.

“We were not performing a randomized trial to determine which technique was superior. We wanted to allow surgeons to do whatever they believed was appropriate—including the combination of multiple strategies in the same case if needed,” Dr. Chang explained.

“Most of the procedures,” Dr. Chang reported, “were performed using either sodium hyaluronate or iris hooks. About two-thirds of the cases had mild to moderate nuclear density, and one-third of the nuclei were dense. Most surgeries were performed using topical anesthesia and a phaco chop technique.”

In addition, the surgeons performing the surgeries were highly experienced.
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