Severity determines intraoperative floppy iris syndrome management approach

Options include use of OVD, intracameral drugs, iris retractors, pupil expansion device

By: Lynda Charters
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The management of intraoperative floppy iris syndrome (IFIS) resulting from the use of alpha-1 antagonists such as tamsulosin (Flomax, Boehringer Ingelheim) can be approached in one of several different ways depending on its severity.

Strategies include the use of an ophthalmic viscosurgical device (OVD), intracameral epinephrine, iris retractors, or pupil expansion rings, or a combination of several techniques, such as the use of an OVD and intracameral epinephrine.

Dr. Chang has no financial interests relevant to this report.
E-mail: dcwayne@earthlink.net

Hong Kong—The management of intraoperative floppy iris syndrome (IFIS) resulting from the use of alpha-1 antagonists such as tamsulosin (Flomax, Boehringer Ingelheim) can be approached in one of many different ways depending on its severity, according to David F. Chang, MD, who described his approach at the World Ophthalmology Congress.

Dr. Chang, clinical professor of ophthalmology at the University of California, San Francisco, and in private practice in Los Altos, CA, reviewed different strategies including the use of a viscoadaptive ophthalmic viscosurgical device (OVD), intracameral epinephrine, iris retractors, and pupil expansion devices.

"When considering the management of IFIS, we must recognize that there is a wide range of severity among different patients taking tamsulosin and other alpha blockers," he said. "This means that a technique that works beautifully on one patient may not work on the next, which is why it is helpful to be adept at multiple strategies that can be used individually or in combination."

Mild IFIS is characterized by billowing of the iris alone, moderate IFIS includes iris billowing and intraoperative miosis, and severe IFIS is marked by the presence of all three classic signs, including iris prolapse, Dr. Chang said.

He recounted a multicenter prospective study that included 167 eyes of patients taking tamsulosin and undergoing cataract surgery. In that study, nine out of 10 eyes had IFIS of at least mild severity, and three out of four eyes had moderate to severe IFIS.

Management strategies

The first approach that Dr. Chang described, use of a highly retentive and viscoadaptive OVD, such as 2.3% sodium hyaluronate (Healon 5, Advanced Medical Optics), provides expanded pupillary dilation in patients with moderate-sized pupils, as he demonstrated in a video of a mild case of IFIS. For this strategy to be successful, one must use lower aspiration flow and vacuum settings on phacoemulsification equipment and be reasonably experienced with using this OVD, he said.

"As more [OVD] exits the eye, the floppy iris will constrict, requiring additional replenishment," Dr. Chang said. "This technique works best with reasonably large pupils and with softer nuclei, where you do not need high vacuum to optimize holding power," he added.

Dr. Chang also presented a video case of a patient who had stopped taking tamsulosin 18 months previously. After capsulorhexis was performed and the phaco tip was inserted, the iris immediately began to billow and prolapsed to the phaco incision. After intracameral epinephrine...
1:4000 (mixing 0.2 ml of 1:1000 bisulfite-free epinephrine with 0.6 ml of balanced salt solution in a 3-ml syringe) was injected, the pupil quickly dilated wider. Just as impressively, he said, the iris became more rigid, without any tendency for billowing or prolapse, and the rest of the case proceeded without any difficulty.

"This is a wonderful rescue technique, because it is more difficult to safely place iris retractors following the capsulorrhexis and hydrodissection," Dr. Chang stated. "Intracameral epinephrine is well tolerated, and for patients taking alpha blockers, there is no harm in trying it intraoperatively. While it might not always dilate the pupil further, it will at least increase iris rigidity in many cases. You can always combine [the 2.3% sodium hyaluronate OVD] with epinephrine to widen the pupil further for the capsulorrhexis step."

Patients taking tamsulosin who have pupils that dilate very poorly usually will have severe IFIS, according to Dr. Chang. "In these cases, I go straight to mechanical devices, such as iris retractors," he said.
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