

Alpha-Blocker Patient Advisory ASCRS and AAO Information Statement

Alpha-blocker drugs and intraoperative floppy iris syndrome (IFIS), related complications in cataract surgery

Recommendations

The American Society of Cataract and Refractive Surgery (ASCRS) and the American Academy of Ophthalmology (Academy) recommend that:

- 1) prior to starting a prescription for alpha-blocker drugs, patients with cataracts should consider that these drugs may increase the difficulty of cataract surgery. This is especially true with selective alpha-blockers, such as Flomax® (tamsulosin) or Jalyn® (tamsulosin/dutasteride);
- 2) patients taking alpha-blockers to treat prostate enlargement, or other conditions, should likewise inform their ophthalmologist about these medications before undergoing eye surgery;
- 3) patients with cataracts requiring an alpha-blocker may wish to consider a non-selective drug, like Hytrin® (terazosin), Cardura® (doxazosin), or Uroxatral® (alfuzosin), for their initial treatment; and
- 4) patients with symptomatic cataracts may wish to consider cataract surgery prior to starting alpha-blocker therapy.

Background

Flomax (tamsulosin) is the most commonly prescribed drug for prostate enlargement, or benign prostatic hyperplasia (BPH), in North America. Jalyn, is a combination drug that includes tamsulosin. Examples of other alpha-blocker drugs include Hytrin (terazosin), Cardura (doxazosin), Uroxatral (alfuzosin), and Rapaflo® (silodosin). By relaxing muscles in the enlarged prostate and facilitating more complete emptying of the bladder, alpha-blockers decrease the need to urinate during the middle of the night. Because they relax muscles in the bladder wall, alpha-blockers may be prescribed for urinary retention in women. Finally, alpha-blockers are also used to treat hypertension because they relax small muscles within blood vessel walls. However, in some individuals alpha-blockers can cause postural hypotension – abrupt lowering of the blood pressure when a person suddenly stands up, causing lightheadedness or fainting.

Flomax (or Jalyn) and Rapaflo (silodosin) are considered selective alpha-blockers,¹ because their drug effects are more selective for, and therefore more pharmacologically limited to, the prostate. Because there is less effect on the blood vessel walls, selective alpha-blockers are theoretically less likely to cause postural hypotension compared to non-selective drugs, such as Hytrin (terazosin) and Cardura (doxazosin). Interestingly, Uroxatral (alfuzosin) is a non-selective alpha-blocker that has a low reported incidence of cardiovascular adverse events because it is more slowly absorbed into the bloodstream.

Alpha-Blocker Effects on Cataract Surgery

In 2005, investigators reported a new problem occurring during cataract surgery in patients using alpha-blockers.² They called the condition intraoperative floppy iris syndrome (IFIS).

The iris, the part of the eye that gives it its color, opens and closes in response to varying light levels. Because the iris is located in front of the cataract, the pupil (opening in the iris) must be widely dilated to perform the surgery. A large pupil is obtained, in part, by using dilating drops that stimulate the iris dilator muscle. Alpha-blockers block the iris muscle, leading to poor dilation and sometimes causing the pupil to suddenly constrict during surgery. Alpha-blockers do not cause other known vision or eye health problems.

Following the publication of these findings, and after receiving corroborative reports from other ophthalmologists, the U.S. Food and Drug Administration (FDA) instituted a new label warning in 2005 for Flomax and other alpha-blocker drugs reading: "The patient's ophthalmologist should be prepared for possible modifications to their surgical technique."

Additional studies have confirmed the following clinical features of IFIS:

1. Several studies suggest that IFIS is more likely to occur with the selective alpha-blocker Flomax (tamsulosin) compared to the other non-selective alpha-blockers.²⁻⁷

In May 2009, Bell et al reported on a large population-based study in Ontario, Canada that found a higher rate of postoperative complications in cataract patients who were taking Flomax (tamsulosin).⁸ The study looked at all men over age 66 in the province undergoing cataract extraction between 2002 and 2007 (n=96,128) and found that 3.7% had recently taken Flomax, compared to 7.7% who had recently taken other alpha-blockers. A total of 284 (0.3%) patients required extra procedures for complications within 14 days postoperatively. Complications ranged from lost lens, lost lens fragments, retinal detachment, and/or endophthalmitis. Analyzing this group, the investigators determined that taking Flomax (tamsulosin)

made patients 2.3 times more likely to develop these postoperative complications than those who were not exposed to the drug preoperatively. They did not find that the risk was increased when non-selective alpha-blockers, such as Hytrin, Cardura, or Uroxatral, were taken.

In 2011, a meta-analysis found that Flomax (tamsulosin) had a 40-fold higher pooled odds ratio for IFIS compared to non-selective alpha-blockers Uroxatral (alfuzosin) and Hytrin (terazosin).⁹ A prospective, masked single-surgeon study also found severe IFIS more commonly with Flomax compared to non-selective alpha-blockers as a group.¹⁰ Uroxatral rarely caused postural hypotension and was associated with fewer cardiovascular adverse events in other studies.¹¹⁻¹³

Finally, a 2014 published multicenter prospective study found that severe IFIS was statistically more likely with Flomax than non-selective Uroxatral.¹⁴ This is the first prospective, masked, and controlled study to specifically compare two alpha-blockers with a low reported incidence of cardiovascular adverse events.

2. Simply discontinuing these drugs prior to cataract surgery does not necessarily help.^{2,4} In a large national survey conducted in 2008, nearly 3 out of 4 cataract surgeons reported encountering IFIS in patients who had stopped (but previously taken) alpha-blockers.¹⁵ A survey of this same time, demonstrated that nearly two thirds of ophthalmologists said that if they themselves had a mildly symptomatic cataract they would either avoid Flomax (tamsulosin) or have their cataract removed first.

Despite these findings, a published survey in 2014 of primary care physicians from the University of California, San Francisco showed that only 35% were aware that alpha-blockers can cause surgical complications; and just half (17%) factored this into treatment considerations.¹⁶

3. Intraoperative floppy iris syndrome increases the difficulty and risk of cataract surgery; particularly if the ophthalmologist does not know that the patient is taking alpha-blockers.¹⁵ Knowing that the patient is taking alpha-blockers, different eye surgical techniques and modifications help to achieve excellent outcomes, should IFIS occur. In one study, a group of experienced surgeons achieved excellent results and a very low complication rate by using these special surgical techniques.⁴ For this reason, patients already taking alpha-blockers need not avoid or delay cataract surgery if it is recommended by their ophthalmologist.
4. The other major class of drugs to treat BPH — 5-alpha reductase inhibitors — do not appear to cause IFIS to any significant degree.⁷

This class of drugs includes Avodart® (dutasteride) and Proscar® (finasteride). However, saw palmetto, an herbal alternative to alpha-blocker therapy, can produce a mild form of IFIS.

Advice for Patients

Flomax (tamsulosin) and other alpha-blockers increase the difficulty of cataract surgery, particularly if the ophthalmologist does not know that the patient is taking or has been taking these medications. The risk of severe IFIS appears to be higher in patients taking Flomax (tamsulosin) than in patients taking non-selective alpha-blockers, as reported by Chang et al (2014)¹⁴ and others.²⁻¹⁰ Because of this, patients with cataracts may wish to consider a non-selective alpha-blocker as initial treatment. It is important that patients inform their ophthalmologist whether they are currently taking alpha-blockers, such as Flomax or Jalyn (tamsulosin), or did so in the past.

Patients should not decide on their own to discontinue their alpha-blockers without first discussing this with their prescribing physician. Before starting an alpha-blocker medication for the first time, patients who already have cataracts should understand that these drugs can complicate cataract surgery later on. For this reason, patients may want to discuss the risks and timing of their cataract operation with their ophthalmologist. The ophthalmologist can advise how much risk the alpha-blocker medication poses for the patient's cataract surgery and whether delaying, or avoiding the drug, is advisable until cataract surgery is performed.

Of those alpha-blockers with the lowest reported risk of cardiovascular adverse events, patients with cataracts may wish to try Uroxatral (alfuzosin) first. Other than complicating cataract surgery, there are no other eye side effects from alpha-blockers. Therefore, patients who have already had their cataracts removed should have no special concerns with any alpha-blocker use.

Summary

Scientific evidence supports an association between alpha-blocker drugs, particularly selective alpha-blocker drugs like Flomax or Jalyn (tamsulosin), and increased surgical risks for patients undergoing cataract surgery. Therefore, ophthalmologists, primary care physicians, urologists, and patients should be aware of the potential difficulties that these drugs pose for cataract surgery. The overall risk of serious cataract surgical complications is low, and when the ophthalmologist is informed of the patient's history of alpha-blocker use, the success rate of cataract surgery remains very high. However, patients may wish to consider cataract surgery prior to initiating a non-emergency alpha-blocker prescription.

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Approvals

American Society of Cataract and Refractive Surgery, June 2009

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