Intraoperative Floppy Iris Syndrome (IFIS) Associated with Systemic Alpha-1 Antagonists
ASCRS and AAO Educational Update Statement

In 2005 the U.S. Food and Drug Administration issued a new label warning about the association of α1-antagonists and intraoperative floppy iris syndrome (IFIS). Characterized by sudden intraoperative iris prolapse and pupil constriction, IFIS increases both the difficulty and the risk of cataract surgery[1]. Some complications of IFIS have been sight threatening, including retinal detachment, lost lens fragments, endophthalmitis, and severe iris defects associated with permanent pupil deformity, glare, and photophobia[1-3]. Tamsulosin is the most commonly prescribed α1-antagonist for benign prostate hyperplasia (BPH) in North America. Until the approval of silodosin, tamsulosin was the only systemic α1-antagonist that is selective for the α1-A receptor subtype that predominates in the prostate. Because vascular smooth muscle receptors are α1-B, the theoretical advantage of such receptor subtype selectivity is reduced risk of postural hypotension. Although initial blood pressure monitoring may be recommended when prescribing older non-selective α1-antagonists, such as terazosin and doxazosin, another non-selective α1-antagonist, alfuzosin, rarely causes postural hypotension and is associated with fewer cardiovascular adverse events [4-6].

It is well recognized that simply discontinuing oral α1-antagonists does not prevent IFIS[1]. Studies of rabbit and human cadaver eyes have shown that tamsulosin is associated with atrophy of the iris dilator smooth muscle, and that this may be due to concentration of the drug in iris pigment granules[7,8]. In 2008, the American Society of Cataract and Refractive Surgery (ASCRS) and the American Academy of Ophthalmology (AAO) jointly issued an educational update advisory on IFIS asking prescribing physicians to consider involving the cataract surgeon prior to initially prescribing non-emergent, chronic α1-antagonists in patients with known cataracts. Prescribing physicians were also asked to encourage patients to report any prior or current history of α1-antagonist use to their ophthalmic surgeon prior to undergoing any eye surgery.

Since the 2008 advisory statement, additional evidence has emerged showing that severe IFIS is more likely to occur with tamsulosin compared to non-selective α1-antagonists. A 2011 meta-analysis of 17 published studies found that tamsulosin had a 40-fold higher pooled odds ratio for IFIS compared to alfuzosin and terazosin[9]. A subsequent prospective, masked single surgeon study found severe IFIS more commonly with tamsulosin compared to non-selective α1-antagonists as a group[10]. Finally, a newly published multicenter prospective study found that severe IFIS was statistically more likely with tamsulosin than alfuzosin[11]. This was the first prospective, masked and controlled study to specifically compare two α1-antagonists with a low reported incidence of cardiovascular adverse events. In a 2008 survey, nearly two thirds of ophthalmologists said that if they themselves had a mildly symptomatic cataract they would either avoid tamsulosin or have their cataract removed first [12].

A newly published survey of primary care physicians from the University of California, San Francisco showed that only 35% were aware that α1-antagonists can cause cataract surgical complications; only half (17%) factored this into treatment considerations[13]. Less than 10% inquire about a history of

cataract prior to initiating α1-antagonist treatment and only 31% regularly advise patients to inform their ophthalmologist about taking these drugs. Most respondents (96%) desired more information on this topic.

We are issuing this updated educational statement for prescribing physicians based on these two newly published reports. Patients with symptomatic cataracts may wish to consider cataract surgery prior to initiating non-emergent α1-antagonist therapy. Because tamsulosin is associated with the highest risk of IFIS, patients with cataracts may wish to consider a non-selective α1-antagonist as initial treatment.

References:

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