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Clinical: IOL Explantation in Patients with Uveitis

Arash Maleki, MD; C. Stephen Foster, MD, FACS, FACR

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Cataract surgery with intraocular lens (IOL) implantation has become an increasingly successful surgical procedure in patients who develop cataract secondary to uveitis or its treatment. An increasing number of ophthalmologists recognize the consequences of chronic low-grade inflammation and therefore treat uveitis more aggressively to prevent permanent structural damage to vision-critical structures (e.g., the macula and optic nerve).

Visual rehabilitation in patients with uveitic cataract after surgery depends on two essential components: the success of the surgery itself, including the postoperative course, and the extent of preexisting permanent structural damage caused by uveitis. Glaucoma, hypotony, pupillary membrane formation and macular edema may limit the final visual outcome even after technically perfect cataract surgery. Most uveitis experts have agreed over the past two decades that an in-the-bag posterior chamber acrylic IOL (PC-IOL) is well tolerated in patients with a history of uveitis, provided that the disease has been completely quiescent for a sustained period before surgery and remains in remission afterward. However, complications associated with the use of lens implants continue to cause serious problems, leading in some instances to the need for removal of the IOL.

To investigate the incidence, safety, and efficacy of intraocular lens explantation, we reviewed the clinical records of 1,463 patients with uveitis who underwent cataract surgery with intraocular lens implantation, which was subsequently explanted for reasons related to uveitis.

The average age of the patients was 42 years, with a range of 5 to 69 years. Fourteen patients were female and five were male. Twelve were white, six were black, and one was Asian. The uveitis was non-granulomatous in eight patients and granulomatous in eleven. The most common type of uveitis was panuveitis (12 patients). Six patients had intermediate uveitis, including pars planitis and one patient had iridocyclitis. The most common diagnoses were sarcoidosis, juvenile rheumatoid arthritis, and pars planitis. The average duration of the uveitis was 146 months (range 44 to 312 months). The average follow-up period was 60 months, with a range of 5 to 147 months. After IOL explantation, best-corrected visual acuity improved by two or more Snellen lines in seven eyes (37%). Although visual acuity did not improve in five eyes, further deterioration of vision was halted. The vision in seven eyes continued to deteriorate even after IOL explantation.

Only nine of these nineteen patients had control of inflammation for at least 2.5 months prior to cataract surgery. Ten patients received no supplemental preoperative anti-inflammatory treatment, either topical or systemic, before surgery. The average interval from IOL implantation to explantation was 28 months, with a range of 2 to 91 months. The most frequent reasons for IOL removal were uncontrolled inflammation and progressive hypotony. Interestingly, only five of the nineteen patients (26%) were under the care of a uveitis specialist. This finding carries an important message: cataract surgery should be performed or co-managed with a uveitis specialist.

In conclusion: This study shows that cataract surgery in patients with uveitis—especially intermediate and panuveitis, or uveitis associated with systemic immune-mediated diseases—is associated with a higher risk of secondary IOL explantation. This is mainly due to uncontrolled postoperative inflammation or progressive hypotony, with or without cyclitic membrane formation. IOL explantation may be considered even early in the disease course.