

Recent principles and trends of management of uveitic cataract

Editorial

Uveitis is not an uncommon disease with more than 25% of blindness in the developing countries is attributed to uveitis and its complications.¹ Cataract is the most common complication of uveitis (approximately 35% of patients).² Development of cataract may be attributed to the ocular inflammation or secondary to the use of corticosteroids in these eyes. The exact mechanism of development of lenticular opacity in these eyes is not well understood. Pro-inflammatory molecules such as plasma phospholipids, interleukins, phospholipases, and cytokines can cause an increase in the lens epithelial permeability and development of cataract.³ Among patients with uveitic cataract, performing cataract surgery is a challenge due to related complications like recurrent uveitis, raised intraocular pressure or hypotony, small pupil, and posterior synechiae, among others.^{4,5}

Cataract surgery in patients with uveitis may lead to postoperative flare up of inflammation and macular edema leading to a suboptimal visual outcome. Therefore, monitoring of perioperative inflammation is of utmost importance. Traditionally, quiescence of inflammation for three months is recommended before cataract surgery to ensure favorable outcomes.⁶⁻⁸ Recently, laser flare photometer has been introduced to enable accurate measurement of intraocular inflammation with high reproducibility,⁹ there by identifying subtle pathological changes that could not have been recorded otherwise.¹⁰ It is an objective and quantitative method for monitoring the anterior chamber inflammation in uveitis patients.¹¹⁻¹⁴

Phacoemulsification with posterior chamber intraocular lens (IOL) is presently, the surgery of choice. In-the-bag Implantation of IOL is recommended to avoid inflammation by mechanical trauma of IOL with the iris that can occur with sulcus implantation. With newer IOL designs and materials, significant postoperative inflammation is avoided due to the inertness of the IOL components. However, one must exercise caution in implanting IOLs in situations such as juvenile idiopathic arthritis. Surgically, the most challenging surgical aspect of uveitic cataract may be small pupil due to either synechiae or inflammation-related iris atrophy. This may lead to difficulty in performing capsulorhexis and nucleotomy. Several devices have been introduced for dilating the pupil intraoperatively. Newer devices include Malyugin's ring¹⁵ and Bhattacharjee ring,¹⁶ which can be inserted through single port and result in good circular pupillary dilatation. Another device, Visitec I-Ring iris dilator has been associated with better outcomes.¹⁷ Other intraoperative maneuvers include lysis of synechiae mechanically (using two blunt instruments), or by ophthalmic viscoelastic device, and pupiloplasty.

The most critical aspect of uveitic cataract surgery is control of postoperative inflammation. This is often possible with judicious use of increase in systemic corticosteroids and/or immunosuppression. However, these agents are associated with significant systemic side-effects such as hyperglycemia, hypertension, osteoporosis, gastric ulceration among others.^{18,19} Local therapies such as intravitreal triamcinolone acetonide and fluocinolone acetonide (Retisert®)

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are associated with raised intraocular pressure.²⁰ Dexamethasone implant (Ozurdex®, Allergan Inc., Irvine, CA, USA), a sustained release intravitreal device containing 700µg dexamethasone has been approved by the USFDA for macular edema in non-infectious posterior/panuveitis.²¹ Intraoperative use of Ozurdex along with phacoemulsification is effective in controlling postoperative inflammation and decreases the incidence of cystoid macular edema with few adverse events.²² Preoperative injection of dexamethasone implant in cases of uveitic cataract has shown to prevent recurrence or worsening of macular edema.²³ In cases with long duration of absolute control of inflammation preoperatively, only intensive topical corticosteroids post operatively may be sufficient for favorable outcomes. Additional systemic corticosteroids may have no additional benefit in these patients.²⁴

Summary

Patients with uveitic cataract are a management challenge but with advancement in technology in drug delivery system, IOL material, as well as diagnostic and treatment modalities, these cases are associated with significantly improved outcomes.

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Conflicts of interest

The authors declare no conflicts of interest.

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