



Marko Hawlina



Claudette Abela-Formanek

# Good long-term results possible in cataract patients with uveitis

Dermot McGrath  
in London

IMPLANTING intraocular lenses in cataract patients with uveitis can deliver good long-term outcomes so long as rigorous patient selection is adhered to and the inflammation is strictly controlled with topical or systemic prophylactic treatment before, during and after surgery, according to Marko Hawlina MD, PhD.

“The treatment of cataracts is obviously more complex and problematic in patients with uveitis. However, our studies have shown that stringent control of the inflammation, atraumatic surgery and regular postoperative follow-up can improve the results of cataract extraction. Intraocular lens implantation in selected cases is well tolerated with good visual results,” he reported at the XXIV Congress of the ESCRS.

Dr Hawlina’s study, with co-workers Aleksandra Kraut, MD and Natasa Vidovic-Valenticinc MD, carried out at the Slovenia University Eye Hospital, Ljubljana, Slovenia, included 49 cataracts associated with uveitis of different aetiologies. All eyes had to be quiescent for at least three months before surgery. The cataracts were removed by small incision phacoemulsification surgery using topical and intracameral anaesthesia. Patients that were treated pre-operatively received oral methylprednisone 0.5-1.0 mg/kg, which was administered 3-14 days before surgery or added to the baseline treatment, and tapered postoperatively. Different viscoelastics, dyes, epipupillary membrane peeling, “dynamic” pupil stretching, iris retractors, capsular retractors and intracapsular rings and segments were also used as needed.

Dr Hawlina reported that phacoemulsification and foldable IOL implantation (Acrysof, Alcon) was successfully performed in all patients. Mean visual acuity before the operation was 0.12 (+/-0.16+), and 0.50 (+/-0.35) one week after the operation. None of the patients had reduction of vision due to operation.

“The visual acuity remained remarkably stable thereafter and did not change much over the course of five years,” said Dr Hawlina.

The results for visual acuity at six months were 0.57 (+/-0.38), 0.58 at one year (+/-0.4), 0.61 at three years (+/-0.4) and 0.58 at five years (+/-0.36), with 8.1 per cent of patients requiring Nd-YAG laser capsulotomy.

He noted that at three years, 54.5 per cent of patients recorded a visual acuity better than 0.8, while just over nine per cent of patients scored worse than 0.05 due to posterior segment complications. Other complications included reversible reactivation of the disease in one patient, cystoid macular oedema in four eyes, three of which were irreversible, tractional retinal detachment in two eyes and subsequent vitrectomy, and two eyes had epiretinal membrane not associated with cataract surgery.

Dr Hawlina concluded that cataract surgery in uveitic eyes has been shown to offer good visual rehabilitation, especially with the use of modern intraocular lenses, which offer good biocompatibility.

“The average visual acuity for our group of patients did not deteriorate greatly over five years, and approximately 50 per cent of the patients in our mixed uveitis population achieved visual acuity of 0.8 to 1.0. Approximately one-fifth of patients scored worse because of pre-existing posterior segment reasons and about 10 per cent because of cystoid macular oedema as the most frequent postoperative complication. Nevertheless, we conclude that implantation of IOLs is a safe procedure in properly selected cases of uveitic cataract and can give predictably good visual results,” he said.

Turning to the issue of which intraocular lens is best adapted for use in cases of uveitic cataract, Claudette Abela-Formanek MD said that a heparin surface-modified hydrophilic acrylic lens (BioVue 3, Ophthalmic Innovations International), demonstrated good uveal biocompatibility and centration in uveitic eyes.

“The management of uveitic eyes with cataract is more difficult than in patients with senile cataract. The presence of posterior synechiae and narrow pupil, cyclitic membranes and calcified capsules are well managed in the hands of an experienced surgeon. The postoperative follow-up is also very important to decide when to reduce

the postoperative therapy and to avoid flare-ups and the possible development of posterior synechiae. The visual acuity results and visual outcomes do not only depend on the lens and on the surgery, but also on the history and ongoing course of the disease. The choice of IOL material is therefore more significant in eyes with uveitis,” said Dr Abela-Formanek, Medical University of Vienna, Austria.

Dr Abela-Formanek’s prospective study included 30 patients with cataract in eyes with uveitis of heterogeneous origin. Each patient was implanted with a hydrophilic-acrylic IOL, the BioVue 3 lens, a three-piece foldable sharp-optic IOL with a modified heparin surface coating. Because heparin is a carbohydrate molecule endogenous to most mammals, it is not recognised as a foreign substance by the body and should theoretically minimise the risk of immunological reactions.

Standardised phacoemulsification surgery was performed as far as possible through a 3.2mm clear corneal incision. Dr Abela-Formanek noted that synechiolysis and pupil stretching were performed as necessary and postoperative evaluation was performed after one and seven days, one, three and six months and one year after surgery. Postoperative inflammation was measured with a Laser Flare-Cell meter KOWA FC-1000 and uveal biocompatibility (cellular reaction on the IOL anterior surface) was evaluated by specular microscopy of the anterior IOL surface. IOL centration and capsular biocompatibility (anterior and posterior capsule opacification) were evaluated by means of biomicroscopy.

At the one-year follow-up point, eyes showed no significant difference in mean aqueous flare compared to pre-operative levels. Only seven out of 30 IOLs recorded a mild cellular reaction on the IOL surface, but



*Iris retractors are recommended to open very small pupils in uveitis as their gentle and controlled expansion does not cause tears in the pupil sphincter. The fifth retractor is placed through a stab incision below the main incision to prevent damage of the iris during phacoemulsification due to prolapse or tenting and gives better view than with the usual four retractors. If using four retractors, diamond configuration is recommended*

Courtesy of Marko Hawlina MD, PhD

these were not clinically significant, she said. The mean anterior capsule opacification (ACO) was moderate and the mean posterior capsule opacification (PCO) was also mild in the central visual axis and in the periphery of the optic.

Dr Abela-Formanek affirmed that the BioVue 3 demonstrated a high uveal biocompatibility and good centration in eyes with uveitis. “The high hydrophilic and heparin surface properties are responsible for the reduced cellular reaction on the IOL anterior surface in eyes with ongoing chronic inflammation of the anterior chamber,” she said.

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