Good results with hydrophilic IOLs in uveitic cataracts

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THE Akreos Adapt (Bausch & Lomb) and the Rayner Centrelflex hydrophilic acrylic lenses appear to be as safe and effective as hydrophobic IOLs in the treatment of eyes with uveitic cataracts, according to the findings of two studies presented at the XXV Congress of the ESCRS.

Hydrophobic AcrySof IOLs (Alcon) are currently the lens of choice for many surgeons when dealing with cases of patients with uveitis, because of the lens material's capsular and uveal compatibility. Studies have shown that such lenses result in quieter eyes in uveitic cases with less PCO than is the case with PMMA IOLs. The findings of the present studies suggest that hydrophilic IOLs of appropriate design may perform as well as the hydrophobic lenses, the congress heard.

In one pilot study, there was no observed difference between the visual outcomes and complication rates of eyes that received the hydrophilic Akreos Adapt and of those that received the hydrophobic AcrySof IOL, said Niaz Islam FRCOphth, Moorfields Eye Hospital, London, UK.

The prospective, randomised, single blind trial, involved 30 cataract patients who had active uveitis within the last two years but had controlled inflammation, on or off medication, for the three months prior to surgery. Fifteen patients underwent implantation of the Akreos Adapt and 15 underwent implantation of the AcrySof MA60 IOI during the period from April 2005 to May 2006. The study was completed in May 2007, Dr Islam said.

The patients' uveitic subtypes included anterior uveitis in 10 cases, intermediate uveitis in six, idiopathic non-sarcoïd uveitis in six and sarcoïd uveitis in four. There were also four cases of Fuchs' heterochromic cyclitis. All received preoperative steroid prophylaxis, either drops or drops and tablets, according to a standardised protocol.

The Akreos Adapt IOI is a biconvex lens with an optic diameter 6.0mm and a total length of 10.5mm, 10.7mm or 11.0mm and a diopteric range of 10 D to 30 D. It is composed of a hydrophilic acrylic material with a water content of 26 per cent and a refractive index of 1.46 and, like the AcrySof lens, it has a square-edged optic to prevent lens epithelial cell migration.

Similar outcomes in both groups

At a follow-up of one year, 50 per cent of eyes in both groups achieved visual acuity of 6/9.5 or better, while 11 in the Akreos group and 12 in the AcrySof group achieved an improvement of 15 ETDRS letters, Dr Islam said.

There were also no significant differences between the pilot study groups with regard to complications. Cystoid macular oedema occurred in six eyes (40 per cent) from both groups. In addition, postoperative inflammation, measured with flare meter throughout the study period, was similar in the two groups as was the number of giant and pigment cell surface deposits on the IOI.

Furthermore, anterior rhexis measurements at 12 months showed no apparent difference in the rate of anterior capsule phimosis or capsular contraction, despite the Akreos IOI being softer than the AcrySof lens. The number of patients with PCO was also similar in the two groups, occurring in two eyes with the Akreos lens and three eyes with the AcrySof lens. YAG capsulotomy was necessary in one eye in both groups.

"Akreos Adapt lens is an acceptable alternative when compared to AcrySof lens, which is currently our standard IOL for uveitis patients undergoing phacoemulsification cataract surgery. This pilot study showed no major difference in cystoid macular oedema or postoperative inflammation in either the topical and systemic regimen arms for both IOLs," Dr Islam said.

In another study presented at the congress, implantation of another hydrophilic IOL, the Rayner 570H Centrelflex, produced similar results in eyes with risk factors for uveitis, said Ashok Vyas FRCS, Scarborough Hospital, Scarborough, UK.

The trial involved 24 eyes with history of breakdown of the blood-aqueous barrier that underwent phacoemulsification and implantation of the Rayner 570H hydrophilic lens between April 2003 and February 2004. Like the Akreos lens, the Centrelflex has a square-edged optic, Dr Vyas noted.

The causes for the breakdown of the blood-aqueous barrier included diabetes in 15 eyes, and uveitis with posterior synechiae in four eyes. Other causes included trabeculectomy, YAG iridotomy, retinal detachment surgery, and traumatic uveitis.

At three years’ follow-up, Dr Vyas and his associates took high-resolution retro-illumination photographs of 18 eyes. They showed no evidence of posterior synechiae in any of the eyes. In addition, none of the eyes showed pigment deposits or implant precipitates on the lens implant surface. Posterior capsule opacification occurred in four eyes, two of which required YAG capsulotomy.

"We observed an excellent barrier effect of the square-edged optic to the lens epithelial cell migration with the Rayner Centrelflex IOI," Dr Vyas said.

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