Quality of vision, quality of life

When it comes to post-op evaluation after cataract surgery, visual acuity testing does not tell the whole story. Patients may report dissatisfaction despite a 20/20 visual acuity reading. Questions remain about quality of vision and daily functioning. J Alìo and colleagues utilised the National Eye Institute Visual Function Questionnaire (NEI VFQ-25) to tease out quality of life issues in a comparison trial of three lenses: a multifocal IOL, the AcrySof ReSTOR SN6AD3 (Alcon Laboratories); an apodised multifocal IOL, the AcrySof ReSTOR SN6AD3 (Alcon Laboratories); and a full diffractive multifocal IOL Acri.LISA 366D (Carl Zeiss Meditec).

The study of 106 eyes of 53 patients showed no statistically significant differences in manifest sphere or cylinder between the three IOL groups. There were also no statistically significant differences in postoperative distance visual acuities. Patients receiving either of the multifocal IOLs had significantly less difficulty than monofocal recipients in reading the newspaper and bills, and in performing hobbies that required near vision. However, patients who received the Acri.LISA 366D multifocal had significantly less difficulty driving at night than those who received the AcrySof ReSTOR. Patients receiving the monofocal IOLs had significantly better postoperative photopic contrast sensitivity than monofocal recipients.

Endothelial survival after DSAEK and AC IOL

Is endothelial cell survival worse in patients undergoing DSAEK in the presence of an anterior chamber IOL? Two-year follow-up of a series of cases suggests the answer is no. The study of 20 eyes, all with a well-centred AC IOL with an AC IOL-to-endothelial depth greater than 3.0mm, showed a mean postoperative donor endothelial cell loss of 24 per cent at one year and 28 per cent at two years. There was no significant difference in cell loss in this series compared with ECD loss in DSAEK surgeries performed in the presence of a posterior chamber IOL. However, the presence of an AC IOL is almost always associated with a history of vitrectomy and loss of an intact lens–iris diaphragm, which may make the retention of an air bubble after surgery difficult. This may theoretically increase the likelihood of dislocation and possible IOL touch with loss of endothelial cells. Therefore, the surgical decision of retaining or exchanging the IOL when performing endothelial keratoplasty in the presence of an AC IOL should be individualised to each case, the researchers emphasise.

Latest on lens refilling

Lens-refilling procedures with flexible polymer have the potential to provide accommodative vision. However, success with this approach has so far been elusive. One of the many problems has been the variability in lens dimensions. High-precision control when injecting a flexible polymer also poses significant challenges. Only the optimum amount of polymer will allow adequate lens refilling and yield the necessary changes in lens curvature for accommodation. Magnetic resonance imaging studies on animal eyes suggest a way forward in the quantitative evaluation of the lens shape. O Stachs and colleagues conducted high resolution MRI studies in rabbit eyes for up to three years after lens refilling procedures. This allowed them to visualise the entire geometry of the crystalline and refilled lenses in vivo. The capsule and the polymer remained in close contact with no visible interface in refilled eyes. The dimensions of the refilled lens were significantly smaller than those of the crystalline lens of the contralateral eye. This points to the need to optimise the amount of polymer injected during lens refilling to achieve a predictable refractive outcome after lens refilling surgery, the investigators note.

FURTHER STUDY

Become a member of ESCRS to receive a copy of EuroTimes and JCRS journal.