

Synchrony Dual Optic IOL compares favourably with multifocal IOLs in early trials

Dermot McGrath
in Athens

THE Synchrony Dual Optic Accommodating IOL (Visiogen) provides good functional vision at near, intermediate and distance ranges and may offer a viable alternative to multifocal lenses for cataract or refractive lens exchange patients, according to Ivan Ossma-Gomez MD.

Addressing delegates attending a session on presbyopia during the ESCRS Winter Refractive Meeting, Dr Ossma-Gomez said that the Synchrony IOL performed favourably in a comparative study with the ReZoom (AMO) and ReSTOR (Alcon) multifocal platforms.

“Our clinical experience shows that the Synchrony Dual Optic Accommodating IOL is a very promising technology that delivers the quality of vision of a monofocal lens and a functional range of vision that exceeds that of multifocal IOLs,” he said.

He noted that correcting pseudophakic presbyopia remains one of the more elusive challenges in ophthalmology today. He believes that surgeons should be wary of promising more than current technology is able to deliver.

“Patients that are seeking presbyopia reversal procedures nowadays expect unaided functional range of vision for distance, intermediate and near. But they also do not want any contrast sensitivity detriment or unwanted visual phenomena, so in essence they hope to achieve the visual acuity of a two-year-old without any compromises. And while this might be understandable, sometimes technology might not be able to provide for that and we need to bear this in mind when discussing options with our patients,” he said.

Dr Ossma-Gomez’s non-concurrent comparative study included a total of 42

cataract patients, 17 of whom were bilaterally implanted with the Synchrony IOL, 11 with the ReZoom and 14 with the ReSTOR lens. All patients were closely matched for age, residual refraction and pre-operative photopic pupil size.

Patient evaluations included binocular uncorrected visual acuities at various testing distances: 30cm and 40cm for near distance, 50cm and 80cm for intermediate, and four metres for distance vision. Contrast sensitivity and reading speed tests were also carried out for the three groups of patients and subjective testing included a quality of life questionnaire that was cultural sensitive to Dr Ossma-Gomez’s patients.

The results after six months postoperatively showed that 94 per cent of patients implanted with the Synchrony IOL achieved binocular distance vision of 20/40 or better compared to 100 per cent of subjects in both multifocal groups. Binocular uncorrected near visual acuities were 20/40 or better in all Synchrony patients and 92 per cent and 82 per cent of the ReSTOR/ReZoom subjects respectively.

Contrast sensitivity was higher for all frequencies in the Synchrony group. Intermediate vision proficiency showed comparable reading speeds between Synchrony and ReZoom patients with a slight advantage compared to the ReSTOR subset of patients. Spectacle independence was attained by 91 per cent, 88 per cent and 100 per cent of patients in the ReSTOR, ReZoom and Synchrony groups respectively, noted Dr Ossma-Gomez.

Discussing the properties of the Synchrony lens, Dr Ossma-Gomez, assistant professor of ophthalmology at the Instituto para Niños Ciegos y Sordos, Cali, Colombia, described it as a single-piece silicon lens with dual optics that is implanted into the eye using a

proprietary preloaded injector through a 3.7mm to 3.8mm clear corneal incision. He noted that use of the injector dramatically reduces the incidence of surgically induced astigmatism and enables a controlled delivery of the dual-optic IOL into the capsular bag.

To achieve its ‘accommodative’ effect, the Synchrony IOL works by movement of the anterior optic, which is highly powered via a spring system coupled with the ciliary muscle contraction. The springs connect a 5.5mm high-power anterior optic and a 6.0mm negative power posterior optic; the spring action moves the front optic and changes the eye’s focus from near to far. This unique combination of positive and negative powered optics is customised for each individual patient, said Dr Ossma-Gomez. While Dr Ossma-Gomez said that he was encouraged by the results thus far of the Synchrony, he acknowledged the limitations of his study.

“Obviously we have to consider the selection bias, because the Dual Optic IOL group came from a controlled clinical trial whereas the other two multifocal cohorts came from my regular surgical population. The sample size is also too small to quantitatively measure certain differences, and also there are no published standardised protocols to measure range of vision. Likewise, it is difficult to properly assess intermediate vision because of the lack of a standardised chart or agreed system,” he said.

ossma@mac.com