The new Diffractiva®-aA multifocal intraocular lens provides good far, near and intermediate vision, according to the results of a study presented at the XXIX Congress of the ECRS.

“The level of patient satisfaction with this new multifocal lens was high due to very low spectacle use and minimal photic phenomena at night,” said Max Rasp MD, University Eye Clinic, Paracelsus University, Salzburg, Austria.

He noted that the Diffractiva-aA (HumanOptics) IOl is a one-piece hydrophilic acrylic multifocal lens (see image). It has a diffractive aspheric aberration-free anterior surface with a 3.5 D near add and a spherical posterior surface. The implant also has a square edge and a 360-degree epithelial cell barrier on the posterior surface. The lens may be implanted through a microincision. It has been commercially available in Europe since September 2010.

The prospective multicentre study involved 60 eyes of 30 cataract patients that underwent bilateral implantation of the new Diffractiva-aA multifocal lens. At the time of his presentation at the ECRS Congress, 17 patients (34 eyes) had completed six months of follow-up. To be included in the study patients had to have corneal astigmatism no greater than 1.0 D and no ocular pathology other than age-related cataract.

Dr Rasp noted that at their most recent follow-up, the postoperative mean spherical equivalent was 0.12 D. Two-thirds of patients (69 per cent) were within 0.25 D of emmetropia and all were within 0.75 D. In addition, mean uncorrected distance visual acuity was 0.91 when tested monocularly and 1.0 when tested binocularly. Furthermore, monocular uncorrected distance visual acuity was 20/20 or better in 79 per cent of eyes, 20/22 or better in 93 per cent, and 20/30 or better in all eyes.

In addition, patients’ mean uncorrected near visual acuity was 0.86 when tested monocularly and 0.93 when tested binocularly. Monocular uncorrected near visual acuity was 20/20 or better in 79 per cent of eyes, 20/22 or better in 93 per cent, and 20/30 or better in all eyes.

Moreover, mean uncorrected intermediate distance visual acuity was 0.72 when tested monocularly and 0.82 when tested binocularly. Monocular uncorrected intermediate distance visual acuity was 20/20 or better in 38 per cent of eyes, 20/25 or better in 77 per cent of eyes, and 20/30 or better in 85 per cent of eyes. The good intermediate vision was also reflected by the monocular defocus curve, with the lowest point being in average at 0.20 logMAR (20/30).

As regards photic phenomena, 53 per cent reported never seeing haloes around headlights at night, 13 per cent said they saw them sometimes, 27 per cent said they saw them very often and seven per cent said they always saw them. In terms of seeing glare around headlights at night, 80 per cent said they never noticed it, seven per cent said they rarely noticed it, three per cent said they sometimes noticed it, and only 10 per cent said they noticed it very often, Dr Rasp noted. Importantly, none of the patients reported being severely disturbed by these photic phenomena, when present.

In response to a questionnaire, 93.3 per cent of patients said they never wore glasses and the remaining 6.7 per cent said they wore them only very rarely. In addition, all patients said they were satisfied with the lens and 87 per cent said they were very satisfied, he said.

Dr Rasp has no financial interest in the Diffractiva-aA multifocal intraocular lens.

Contact Max Rasp - M.Rasp@salk.at