

TECHNOLOGICAL INNOVATION AND RIGOROUS SCIENTIFIC INQUIRY HIGHLIGHTED IN WINNING POSTERS

THIS year's winners in the ESCRS Poster Competition covered a wide range of topics and included investigations into some of the more mysterious aspects of vision as well as updates on some of the newest cataract and refractive surgery technologies.

CATARACT CATEGORY

First Prize in the Cataract Category went to Shogo Tsuruoka, Japan, for his poster "Monovision using plus and minus spherical aberration values". The presentation described a study which used vision simulation techniques to examine the ways in which the increased depth of field afforded by spherical aberration might influence monovision.

Their study showed that greater amounts of spherical aberration allow greater amounts of dioptric disparity before degradation of stereoscopy occurs. Thus, in the case of an eye with a 2-3mm pupillary diameter, the effect of aberration is small, because of a low depth of field. In such a patient, a dioptric difference between the right and left eye greater than 1.0 D degrades the intermediate image. However, the simulation also showed that in eyes with pupils with a diameter of 4-5mm, monovision with a power difference of 2 D is possible by adding minus spherical aberration to the near vision eye and plus spherical aberration to the distance vision eye.

Second Prize in the Cataract Category went to Jia Yu Ng, UK, for "Surgically induced astigmatism after co-axial and bi-axial cataract surgery". Third Prize went to Chul Young Choi, South Korea for "Scanning transmission electron microscopy and energy dispersive spectroscopy study of sunflower cataract in Wilson's disease".



Shogo Tsuruoka, winner of the Cataract Category

REFRACTIVE CATEGORY

First Prize in the Refractive Category went to Jorge Alió MD, Spain, for "Outcomes of AcrySof Cachet phakic lens during a five-year follow-up". His poster reviewed the findings of a retrospective, observational study including a total of 115 eyes of 75 consecutive patients with moderate to high myopia who underwent implantation of an AcrySof Cachet phakic IOL.

The patients ranged in age between 21 to 60 years.



Jorge Alió, winner of the Refractive Category

At a follow-up of five years mean manifest spherical equivalent refraction was -0.63 D, compared to a preoperative value of -11.78 D. In addition, the uncorrected distance visual acuity was 20/40 or better in 86.4 per cent of patients and 20/25 or better in 50 per cent of patients. Furthermore, the corrected distance visual acuity was 20/32 or better in 95.45 per cent of patients and 20/20 or better in 81.82 per cent of patients.

Moreover, at five years after implantation, the mean distance between the endothelium and the



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IOL was 1.86mm and the mean distance between the IOL and the crystalline lens was 0.97mm. Furthermore the mean loss of endothelial cell loss was 3.46 per cent and the coefficient of variation in cell size decreased from 39.13 before surgery to 31.39 at five years.

Regarding visual quality, the mean value of internal total HOAs was $0.43\mu\text{m}$, internal primary spherical aberration was $-0.27\pm 0.17\mu\text{m}$ and internal primary coma was $0.17\pm 0.46\mu\text{m}$.

"Five-year findings showed that the AcrySof Cachet pIOL provided favorable refractive correction and predictability and acceptable safety in patients with moderate to high myopia" the authors concluded.

Second prize in the Refractive Category went to Alper Agca, Turkey, for "The evaluation of corneal subbasal nerve regeneration with in vivo confocal microscopy in patients whom FS-LASIK or SMILE was performed".

Third Prize was awarded to Robert Montés-Micó, Spain, for his poster, "Prevalence of cataract after implantable collamer lens for high to low myopia".