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MICS with toric intraocular lenses in keratoconus: Outcomes and predictability analysis of postoperative refraction

Felipe A Soria¹, Jorge L Alió^{1,2,3}, Pablo Peña-García², Fidan Abdulla Guliyeva², Ghassam Zein⁴ and Sabat K Abu-Mustafa⁴¹Visum Corporación, Spain²Corporacion Alicante, Spain³Universidad Miguel Hernández, Spain⁴Ahmadi Hospital Kuwait, Kuwait

Aim: To investigate the visual and refractive outcomes, safety, efficacy and stability of cataract surgery in eyes with stable keratoconus.

Methods: 17 eyes (10 patients) diagnosed as stable keratoconus, aged from 34 to 73 years (56.63±12.47), underwent micro-incision cataract surgery (MICS) followed by implantation of toric intraocular lens (IOL). Seven of them were operated bilaterally and three unilaterally. A complete ophthalmological examination was performed preoperatively and postoperatively. The main outcome measures were: uncorrected distance visual acuity (UDVA), corrected distance visual acuity (CDVA), keratometry and manifest refraction.

Results: Sphere changed from $-1.77 \pm 6.57D$ (-11.00 to 7.00) preoperatively to $0.08 \pm 0.79D$ (-1.25 to 1.75) postoperatively ($p=0.211$), and cylinder changed from $-2.95 \pm 1.71D$ (-7.00 to -0.75) to $-1.40 \pm 1.13D$ (-3.25 to 0.00) ($p=0.016$). UDVA (logMAR) changed from 1.33 ± 0.95 (0.40 to 2.77) to 0.32 ± 0.38 (0.00 to 1.30) ($p=0.008$) and CDVA (logMAR) changed from 0.32 ± 0.45 (0.01 to 1.77) to 0.20 ± 0.36 (-0.03 to 1.30) ($p=0.013$). Efficacy and safety indexes were 1.38 ± 0.58 and 1.17 ± 0.66 , respectively. Refraction and corneal topography were stable during the follow-up (9.10 ± 5.54 months, 3–15).

Conclusions: MICS surgery using corneal topography data and standard formulas for the calculation of the IOL power is a safe and effective procedure regarding keratometric stability, visual and refractive results.

Biography

Felipe A Soria studied Medicine in the Adventist University in Argentina and did Specialty in Ophthalmology in the Vision Institute of Montemorelos University in Mexico. He made the Subspecialties of Cornea, Refractive and Cataract Surgery in Visum Corporation with Dr. Jorge Alio for a period of two years. He has written more than 30 scientific articles and book chapters, being Editor of the book Femtosecond Laser Assisted Keratoplasty. He has participated with 40 communications in different international congress across the world. He owns the patent: Use of Mesothelial cells in Tissue Bioengineering and Artificial Tissues.

soriafelipe.md@gmail.com

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