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Myopic Angle-supported Intraocular Lenses A Long-term Follow-up

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Purpose : To evaluate clinical and refractive results and to determine the potencial cumulative complications of patients implanted with angle supported phakic intraocular lenses (PIOLs) for the correction of myopia.

Design : Retrospective, non-comparative case series

Participants : Thirteen eyes of seven patients that had implantation of single-piece IOL with Z-shaped haptics for angle support eight, nine or ten years before the last examination.

Methods : Basic examinations were performed in some patients and data of the preoperative period and surgery were collected from the charts. The eyes were also studied by clinical specular microscopy, and the endothelium was analyzed for cell density.

Results : The mean follow-up time was 9 years. Spectacle-corrected and uncorrected visual acuities improved in all eyes. Preoperative spherical equivalent varied from -11.00 to -22.75D. Mean spherical equivalent refraction decreased from -15.45 to -3.67 diopters. Anterior chamber phakic IOLs showed no significant movement in anteroposterior direction, but the mean amount of rotation around the optical axis between the intraoperative time and the last follow-up examination was 34.5° degrees (range = 10o - 90o). Pupil ovalization occurred in 46,1% of the cases. The difference in mean IOP between preoperatively and the last follow-up examination was 2 mmHg (p=0,10). Mean endothelial cell loss was 19,21 % at the most recent visit .

Conclusions : Implantation of Angle-supported PIOLs was effective and predictable in correcting severe myopia. The long-term follow-up demonstrates that these lenses appeared to be well tolerated by the corneal endothelium. However, pupil ovalization and IOL rotation seemed to be specific problems for this type of PIOL