Comparison of the two generations of Medennium posterior chamber phakic intraocular lenses for correction of myopia

Session Title: Phakic IOLs II  Date/Time: Tuesday 08/09/2015 | 14:00-16:00  
Paper Time: 14:24 Venue: Room 17

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Purpose:
To compare the visual outcomes and complications of the new generation (MPL) and the previous generation (PRL) of Medennium posterior chamber phakic intraocular lens implantation for correction of myopia.

Setting:
Blue Eye" Centro di Chirurgia Oculare, Milano, Italy, "International Center for Ophthalmology", Moscow, Russia

Methods:
We reviewed 109 myopic eyes undergoing Piol implantation using PRL (54 eyes) and MPL (55 eyes) in which refractive errors ranged from -3.25 to -27.00 diopters (D). The mean follow-up period was 13.18±9.64 months. Autorefractometry, uncorrected distance visual acuity (UCVA), best corrected visual acuity (BCVA), optical biometry, intraocular pressure (IOP), OCT Visante, corneal endothelial cell (CEC) loss were compared.

Results:
The mean SE changed from -11.75±5.81D to -0.42±0.82D in the PRL group and from 11.59±4.97D to -0.46±0.92D in the MPL group. The UCVA improved from 1.54±0.29 (logMAR) to 0.19±0.25 in the PRL and from 1.63±0.25 to 0.18±0.29 in the MPL group. BCVA changed from 0.21±0.25 to 0.09±0.16 in the PRL and from 0.23±0.29 to 0.08±0.17 in the MPL. The mean distance between Crystalline lens and Piol in PRL group – 362.44±91 μm, in MPL group – 373.62 ±74 μm. No statistically significant CEC induced by the PRL and MPL and no statistically significant difference(P<.05). No induced cataract, glaucoma, or inflammation was observed.

Conclusions:
The visual outcomes of the MPL and PRL implantation show comparable efficacy, predictability and stability of results.

Financial Interest: One of the authors’ research is funded, fully or partially, by a competing company