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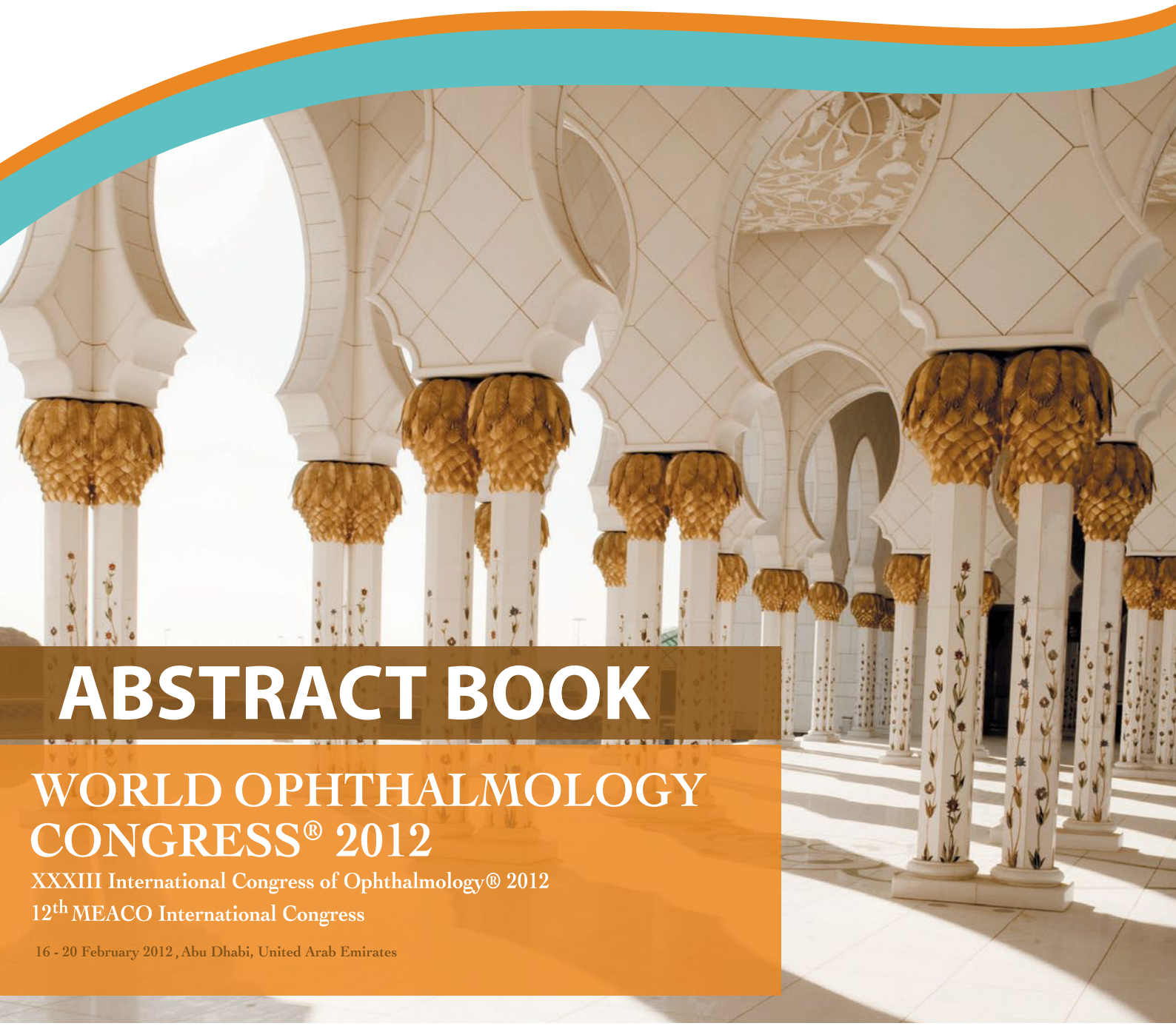

ABSTRACT BOOK

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FP-CAT-TH 40 (9)

First Results After Implantation of Lentis Mplus Toric

Rau Magda [1]

1. *Dr. Rau Eye Clinic*

Purpose: Does the new multifocal asymmetric concept with an aspheric distance vision zone and sector-shape for near-vision in addition of astigmatisms correction perform?

Methods: In a prospective case study from July 2010 until February 2011 we implanted LENTIS Mplus-toric in 12 eyes of 9 patients with an astigmatisms of 1,5-4 ,0 D, after coaxial micro phacoemulsification through 1,8-2,0 mm incision. We evaluated the preoperative refraction, postoperative uncorrected (UCVA), best corrected (BCVA) for distance and post-op refraction. Distance corrected intermediate, near visual acuity, contrast sensitivity and wave front results were tested. The follow up was three months after implantation. The quality of vision, glare, halos and the personal satisfaction of the patients were assessed with a validated questionnaire.

Results: Three months after the Implantation, the mean UCVA for distance was 0,68. The intermediate visus was 0,68, the near 0,7. The rate of the side effects is very low and most of the patients are independent of glasses.

Conclusion: The LENTIS Mplus-toric provides a very good visual acuity for distance, intermediate and near. The additional astigmatisms correction was not necessary. The independence of glasses and satisfaction was very high. The asymmetric MF-toric IOLs correct the vision in all distances combined with astigmatisms.

FP-CAT-TH 40 (10)

A New Model of Artificial Iris-Lens Diaphragm for Extensive Iris Defects

Pozdeeva Nadezhda [1], Pashtaev Nicolay [1], Treushnikov Vladimir [2], Victorova Elena [2], Starostina Olga [2]

1. *MNTK Eye Microsurgery*
2. *Reper-NN*

Purpose: To evaluate anatomical and functional results of implantation of a new artificial iris-lens diaphragm (ILD, Reper-NN) model.

Methods: Twenty nine ILDs of a new design were implanted in eyes with congenital and traumatic partial or total aniridia frequently in association with lens pathology. The new model is typified by suture fixation holes at the bases of 3 SEs. Support elements when flexed could be accommodated within diameter of the main disc body by special recesses carved out on its external circumference, thereby solving the aforementioned problems. Follow-up period 14 months.

Results: All implanted ILDs are well centered. In total aniridia and aphakia with ILD sutured to ciliary sulcus 1.5 mm posterior to the limbus the AC depth on average corresponds to the one in contralateral eye. When ILD is placed on the lens capsule after previous traumatic cataract extraction the AC is deeper than in the fellow eye by a mean of 0.3 mm. Postoperative intraocular inflammation as measured by laser flare cell meter tended to subside at a faster rate compared to the previous ILD model.

Conclusion: A new model of the ILD ensures better adaptation to individual eye dimensions and decreases pressure on the ciliary zone.

FP-CAT-TH 40 (11)

Mutations of the EPHA2 Receptor Tyrosine Kinase Gene Cause Autosomal Dominant Congenital Cataract

Zhang Tianxiao [1], Shi Dong [1,2], Burdon Kathryn P. [3], Zhang Jinsong [1], Zhang Xue [4,5]

1. *Department of Ophthalmology, The Fourth Affiliated Hospital, China Medical University*
2. *Department of Ophthalmology, Tohoku University Graduate School of Medicine*
3. *Department of Ophthalmology, Flinders University*
4. *Chinese Academy of Medical Sciences and Peking Union Medical College*
5. *The Research Center for Medical Genomics, China Medical University*

Purpose: Congenital cataracts (CCs) are clinically and genetically heterogeneous. Loci for autosomal dominant posterior polar CC and total CC have both been mapped to the chromosomal 1p36 region harboring the EPHA2 receptor tyrosine kinase gene. We report mutations of EPHA2 in three CC families from different ancestral groups.

Methods: Genomic DNA was prepared from blood leukocytes, and genotyping was performed by means of micromarkers. Linkage analyses were performed with MLINK program of the LINKAGE package. Mutation detection was achieved by PCR amplification of exons and di-deoxy cycle-sequencing. Yeast two-hybrid analysis was used to test interaction between EPHA2 and LMW-PTP.

Results: In a Chinese family with posterior polar CC, we identified a missense mutation, c.2819C>T (p.T940I), replacing a critical amino acid that functions at the receptor oligomerization interface. In a British family with posterior polar CC and an Australian family with total CC, we found a frameshift mutation (c.2915_2916delTG) and a splicing mutation (c.2826-9G>A). Yeast two-hybrid analysis showed interaction between the total CC-associated mutant EPHA2 and LMW-PTP.

Conclusion: Our results implicate the Eph-ephrin signaling system in development of human cataract and provide a novel insight into the molecular mechanism underlying the pathogenesis of human CCs.

Free Paper: Retina - Surgical

Thu 16 Feb 14:30 - 16:00 Conference Room B4

FP-RET-TH 41 (1)

Photoreceptor Outer Segment Restoration and Visual Recovery After Macular Hole Closure

Bashir Yasfir [1], Kumar Naresh [1], Lokeshwari [1]

1. *Narayana Nethralaya Eye Institute*

Purpose: To evaluate restoration of the photoreceptor outer segment and visual outcomes in closed macular holes after surgery.

Methods: A retrospective analysis of 20 eyes who underwent macular hole surgery was done at one, three, and six months postoperatively using spectral-domain optical coherence tomography. We evaluated the reflective line at the junction between the photoreceptor inner and outer segment (IS/OS) and the best-corrected visual acuity (BCVA).

Results: At six months, 3 eyes had outer foveal defects with a disrupted IS/OS line, 3 eyes had a disrupted IS/OS line, 3 eyes had outer foveal defects with a continuous IS/OS line and 9 eyes had a normal IS/OS line. The mean BCVAs were significantly ($P<0.05$) lower in eyes with a disrupted IS/OS line compared to eyes with a continuous IS/OS line with or without outer foveal defects.

Conclusion: The visual outcomes were significantly better in eyes with a continuous IS/OS line than in those with a disrupted IS/OS line. The presence of normal IS/OS junction may be important for visual recovery after MH repair.