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Impact of posterior corneal measurements on toric intraocular lens calculation

Session Details

Session Title: Assessment of Astigmatism

Session Date/Time: Saturday 05/10/2013 | 11:00-12:30

Paper Time: 11:12

Venue: Main Lecture Hall (Ground Floor)

First Author: : P.Preußner [GERMANY](#)

Co Author(s): : J. Wahl P. Hoffmann

Abstract Details

Purpose:

To quantify the impact of posterior corneal data on the eye's total astigmatism to be corrected in IOL plane.

Setting:

University eye hospital Mainz, Germany, Eye clinic Castrop-Rauxel, Germany

Methods:

In 438 eyes corneal tomography with Tomey TMS-5 (Nagoya, Japan) prior to cataract surgery was measured. The measurement consists of anterior Placido topography combined with rotating slit Scheimpflug imaging. The astigmatism of the anterior corneal surface, of the whole cornea and the vector difference between both were extracted with the OKULIX raytracing software from the measured data.

Results:

The average vector difference between total and anterior corneal astigmatism was 0.22D, median 0.18D in corneal plane, corresponding to 0.32D (median 0.26D) in IOL plane. The centroids are -0.32D/7degrees (anterior), -0.26D/4degrees (total), i.e. both with-the-rule, and -0.07D/18degrees for the vector difference. The maximum difference, however, was 2.72D in corneal plane. 8 out of the 438 eyes (1.8%) had a difference of >1.0D between anterior and total astigmatism in corneal plane.

Conclusions:

The impact of posterior cornea on the outcome of toric IOL calculation is clinically not very high on average, but the measurement is particularly helpful to identify outliers, i.e. candidates for unhappy patients.

Financial Interest:

... gains financially from product or procedure presented

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