Rotational Stability of Diffractive Multifocal Toric IOL

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BACKGROUND

- Emmetropia with increased spectacle independence is an objective of modern cataract surgery. [1]
- Postoperative astigmatism can be a major refractive problem in patients with multifocal intraocular lenses (IOLs), reducing uncorrected visual acuity. [2]
- With multifocal IOLs, any astigmatism over 1.00 diopter (D) should be corrected for the best result. [2]
- The implementation of multifocality and of toricity in a single IOL is a new option for cataract patients with medium to high corneal astigmatism; [2] but must be considered Rotational Stability of Multifocal Toric IOL

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PURPOSE

Evaluate the Rotational Stability of Diffractive Multifocal Toric intraocular lens implanted in patients with cataract and corneal astigmatism.

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METHODS

- Prospective, descriptive and interventional study.
- 83 eyes of 66 patients.
- Setting: Instituto Docente de Especialidades Oftalmológicas, IDEO. Maracaibo – Venezuela.

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METHODS

INCLUSION CRITERIA:

- Diagnosis of cataract and corneal astigmatism ≥ 1.25 D.

EXCLUSION CRITERIA:

- Greater ametropia to -3.00 D.
- Irregular corneal astigmatism.
- Corneal dystrophies.
- Maulopathies.
- History of retinal detachment.
- Intraocular inflammation.
- Abnormalities of the iris and / or pupillary deformity.

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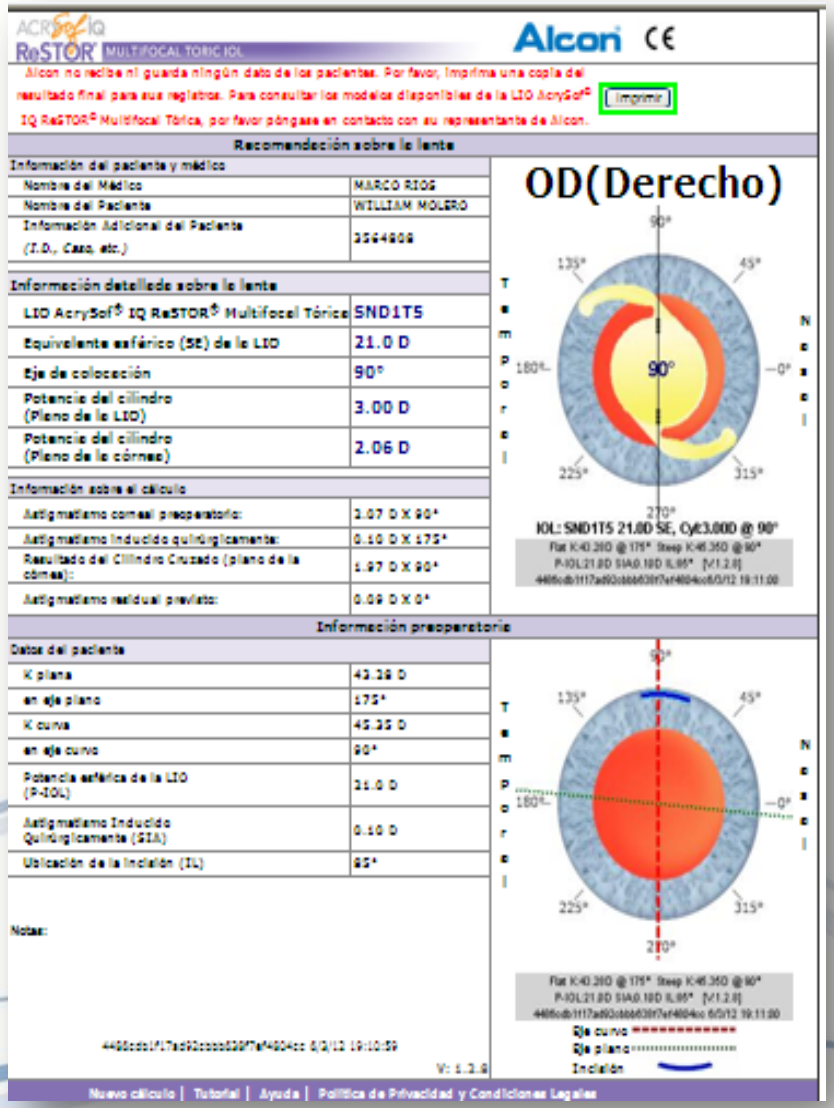
METHODS



- Biometrics: IOL Master ® (Carl Zeiss, Germany).
- Corneal topography: Aberrometer-topographer Nidek OPD Scan II ®.
- Axis Model: AcrySof Toric IOL Calculator based on Web before surgery.
- Statistical analysis: was performed using SPSS for Windows software (version 16.0, SPSS, Inc.) and expressed as mean, standard deviation (SD), absolute numbers and percentages.

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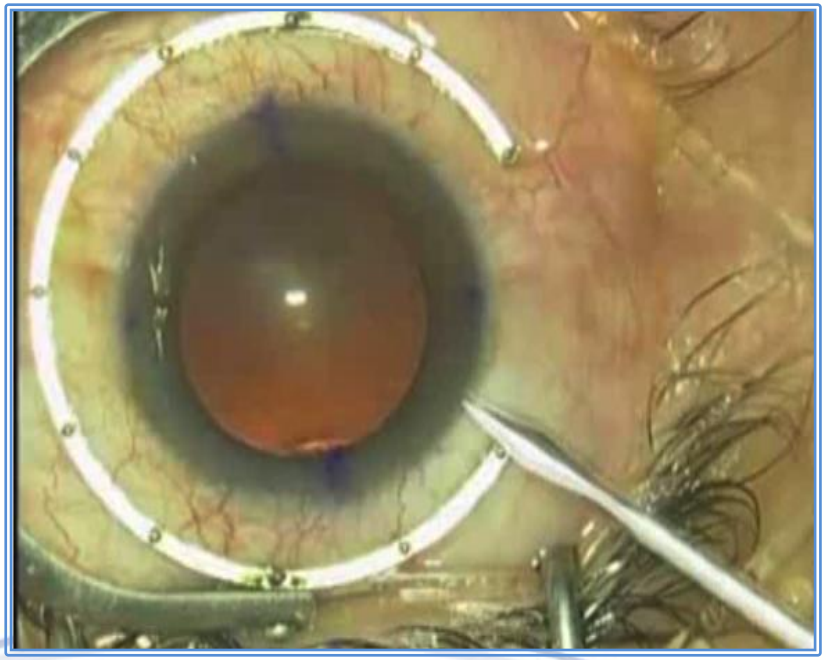
METHODS



- Surgery: a single surgeon, technical "stop and chop" through a clear corneal incision of 2 mm.
- Diffractive Multifocal Toric IOL was implanted into the capsular bag with Monarch III injector and a cartridge-D.
- Postoperative position at 6-month progression was determined with the Vega-Rios method. [3]

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RESULTS

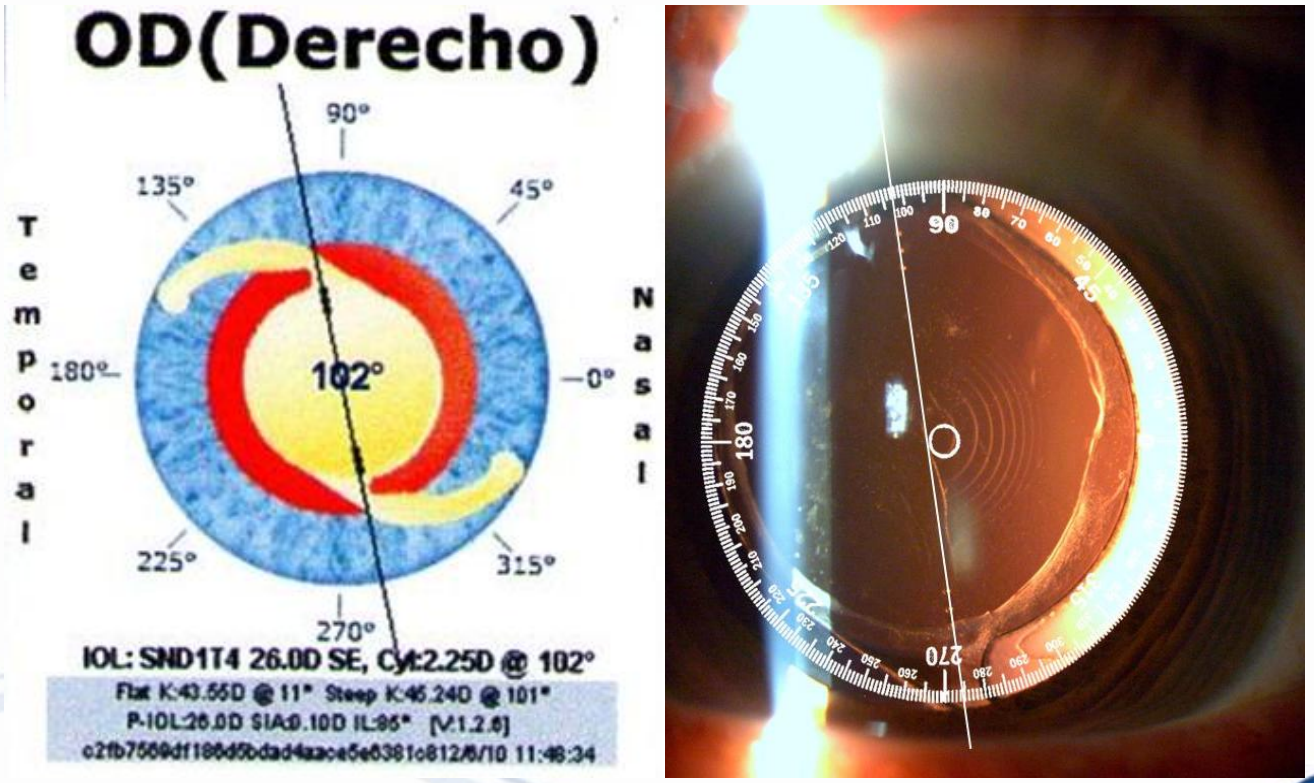

Figure 1: A (*Left side*): Axis placement suggested by the Acrysof Toric IOL web based calculator prior to surgery (102°). **B** (*Right side*): The Vega-Rios method was used on the slit lamp photograph of the same patient in order to determine the axis placement of the IOL six months after the cataract surgery (100°).

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RESULTS

IOLs implanted	**83**
Patients	**66**
IOL Model	**SN6ATT T2-T5**
Mean rotation +/- SD	**3.00 +/- 1.40**
Highest rotation	**10°**
Follow up period	**6 months**

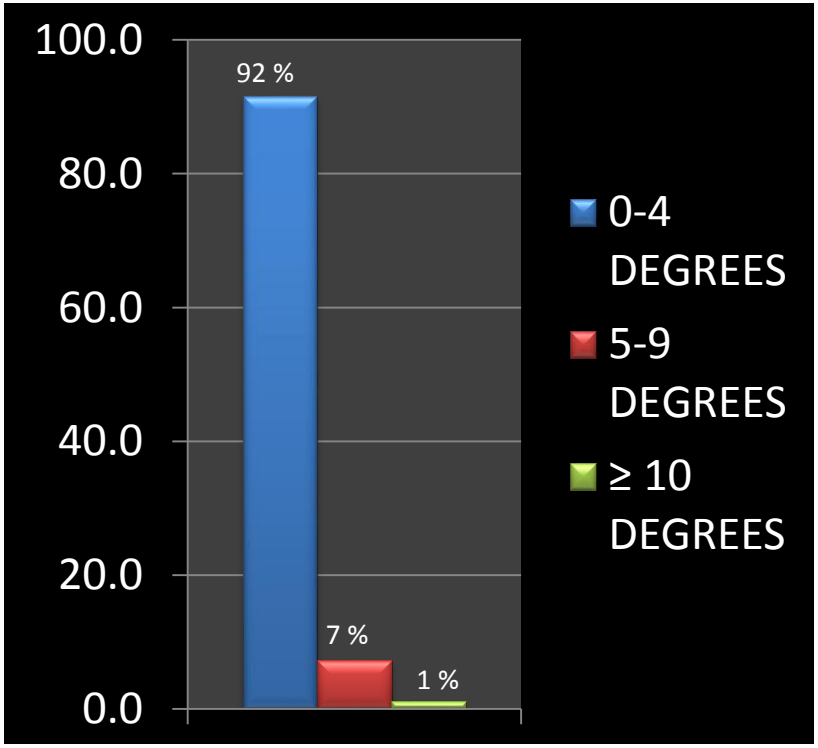

Table 1: After using this method the mean rotation of the toric IOL at the end of the follow up period was 3.0° with a highest rotation of 10°.
IOLs= Intraocular lenses.
SD= Standard deviation

CONCLUSIONS

- Diffractive Multifocal Toric IOL showed rotational stability when implanted in the capsular bag.

- Further research is needed with a larger sample, multiple measurement methods and long-term monitoring.

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