Evaluation of Toric IOL Implantation in Cataract Surgery

Ilana Forchheimer[1], A. John Kanellopoulos[1]
[1]New York University School of Medicine, New York, NY

INTRODUCTION

• The Toric IOL has become a popular option for managing astigmatism in patients undergoing cataract surgery.

• In a 2011 survey in *Review of Ophthalmology,* 57% of respondents reported they prefer using the Toric IOL to other methods for correcting astigmatism in their cataract surgery patients.[1]

• Alternatives to the Toric IOL include limbal relaxing incisions, operating on the steep axis, performing post-operative refractive surgery and spectacle correction.

• Given the different options available to surgeons, we felt it was important to evaluate the safety and efficacy of the Toric IOL.

PURPOSE

• To evaluate the safety, efficacy and clinical parameters of the Acrysof Toric IOL (Alcon, Fort Worth, TX) in cataract surgery.

MATERIALS AND METHODS

• 115 eyes of 78 consecutive patients were evaluated

• Pre-operative and 6-months post-operative measurements of the following were taken:
  • age
  • uncorrected visual acuity (UCVA)
  • best corrected visual acuity (BCVA)
  • spherical equivalence (SE)
  • cylinder (C)
  • topographic cylinder change (TCc)
  • corneal endothelial cell count (ECC)
  • degrees of deviation from planned to achieved IOL axis (Ad)
  • complications

RESULTS

• The mean age of the patients included was 67 years.

• There were no complications in this small group.

Table 1:
Comparison of Pre-operative and Post-operative Measurements

Parameter	Pre-operative	Post-operative
UCVA	20/100	20/25
BCVA	20/40	20/22
SE	4.2	0.5
Cylinder	-2.75	-0.55
ECC	1850	1650
TCc	-0.45 diopters of topographic cylinder change	
Ad	5 degrees difference between planned and achieved axis	

* Post-operative measurements taken 6 months after surgery

DISCUSSION

• There are a number of options available to cataract surgeons for correcting astigmatism.

• Our data demonstrates that implantation of the Toric IOL results in excellent post-operative visual acuity and decreased post-operative cylinder.

• Endothelial cell loss in our patients is slightly higher, but comparable with that found in previous studies.

CONCLUSION

• The Toric IOL appears to be safe and effective in facilitating emmetropia in routine cataract surgery.

http://www.alcon.com/en/alcon-products/cataract-surgery-products.aspx.

REFERENCES

1. Bethke W. Toric IOLs Are Gaining Fans: A look at cataract surgeons' favorite techniques for getting the best outcomes. Review of Ophthalmology 2011. 11(12).
2. Walkow T., Anders N., Klebe S. Endothelial cell loss after phacoemulsification: relation to preoperative and intraoperative parameters. J Cataract Refract Surg. 2000 May;26(5):727-32.