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Short Communication

Postoperative Toric IOL Trouble Shooting

Bala Saraswathy*

Medical Consultant, Cataract and IOL Services, Aravind Eye Hospital, Coimbatore, Tamil Nadu, India

***Corresponding Author:** Bala Saraswathy, Medical Consultant, Cataract and IOL Services, Aravind Eye Hospital, Coimbatore, Tamil Nadu, India.

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Prevalence of astigmatism >1. 00 D is 40%, >1.50 D is 20% and >2.00 D is 8% of patients undergoing cataract surgery. Success rates of toric IOL post cataract surgery for astigmatism is around 70 to 80%. Realignment of toric IOL may require in about 0.65%-3.3%. Common contraindication for toric IOL include subluxated lens, corneal opacity, post keratoplasty, irregular astigmatism, associated retinal and glaucoma pathology associated with poor visual outcome.

Causes for postoperative toric IOL refractive surprise and troubleshooting

- Inappropriate preoperative keratometry reading, dry eye, ocular surface instability
- Improper case selection
- Unanticipated Surgically Induced Astigmatism, Improper preoperative toric marking
- Complicated case astigmatism like high myopia, high astigmatism, keratoconus, post refractive surgery astigmatism
- Rotation of IOL, Incorrect placement of IOL

Preoperative errors can be due to biometry errors could be due to incorrect measurement, transcription error and untreated ocular surface disorders and Improper toric manual marking.

Intraoperatively errors can occur due to IOL Rotation caused by large bag in high myopia, faulty lens plate design, large rhexis. At the end of surgery thorough visco wash, adequate wound hydration, rhexis overlap over IOL to ensure no IOL rotation in early postoperative period. Unexpected Surgically Induced Astigmatism (SIA) occurs due to wound suturing, improper wound construction which can lead to unexpected refractive surprise postoperative period.

Just 1 degree of misalignment results in 3.5% of residual cylinder, 30 degrees of misalignment in a total loss of the toric's astigmatic correcting effect. Most of IOL rotation occurs in first 24 hours. We wait for 2 weeks for any other IOL rotation and possible wound related astigmatism to settle and intervene for IOL redialling if significant astigmatism is present before IOL bag adhesion- fibrosis develops.

In case of difficult case scenarios like keratoconus, post pterygium excision scar, post refractive astigmatism, high astigmatism careful preop evaluation topography analysis, proper IOL formula selection, comparison with different IOL formulas and explaining to the patient about residual cylinder can occur which may need resurgery or glasses is very important. With all these in mind and more and more experience with toric IOL, we recommend toric IOL cut off for with rule astigmatism >1.2 D, against the rule astigmatism >1.0 D as a generalized rule which can be tailored off according to individual patients expectation and surgeons preference.