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Clinical outcomes, predictability and rotational stability following implantation of Eyecryl toric versus TECNIS toric intraocular lenses—A comparative study

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Abstract

Purpose

To compare the visual outcomes, predictability and rotational stability following implantation of Eyecryl toric versus TECNIS toric intraocular lenses.

Methods

This retrospective study included 100 eyes of 78 eligible patients who underwent phacoemulsification followed by implantation of either Eyecryl Toric IOL or TECNIS Toric IOL ($n = 50$ eyes in each group), using an intraoperative image-guided marker less system. All toric IOL implantations were performed under balanced salt

solution. At 2 weeks, 3 months and 6 months, uncorrected (UDVA) and corrected distance visual acuity (CDVA), spherical equivalent refraction, residual astigmatism, and rotational stability of the toric IOL was evaluated and compared. Rotational stability was assessed using ray tracing.

Results

Mean age of the participants was 67.8 ± 9.26 years in Eyecryl toric group and 64 ± 11 years in TECNIS toric group. The mean pre-op corneal astigmatism was 1.75 ± 0.62 D and 2.00 ± 0.71 D in the Eyecryl and TECNIS group, respectively ($p = 0.07$). At 2 weeks and at 6 months post-op, there was no statistically significant difference between the UDVA, CDVA, and residual astigmatism between the two groups ($p < 0.05$). Mean post-operative toric IOL rotation was 3.94 ± 2.27 degrees in the Eyecryl Toric group, and 4.44 ± 2.77 degrees, in the TECNIS Toric group, respectively, the difference was not statistically significant ($p = 0.32$). One IOL in the Eyecryl group and two IOLs in the TECNIS group required re-positioning for significant post-op rotation at 1 week post-op.

Conclusion

At 6 months, both Eyecryl toric and TECNIS toric IOLs showed comparable post-operative outcomes in terms of UDVA, CDVA, residual astigmatism and rotational stability.