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## Correction of high astigmatism with toric intraocular lens in eyes with corneal transplant

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### Abstract

#### Objectives

To evaluate the results of toric intraocular lens (IOL) implantation during cataract surgery in eyes with high regular astigmatism associated with prior penetrating keratoplasty (PK).

#### Methods

A retrospective data analysis of patients with prior PK, who underwent uncomplicated cataract surgery with hydrophobic toric single piece IOL (EyeCryl Toric®, Biotech Vision Care, Luzern, Switzerland).

#### Results

A total of 18 eyes of 18 patients were included in the study. The mean age was 53.4 ± 12.4 (25–70) years. The mean follow-up period was 15.5 (4–24) months. The mean best corrected visual acuity (BCVA) significantly increased from 1.36 ± 1.0 logMAR to 0.31 ± 0.17 logMAR ( $p < .001$ ) pre- and post-operative 4 weeks, respectively. There was no significant change in mean BCVA during follow-up; mean BCVA was 0.32 ± 0.17 logMAR at the last visit. The mean pre-operative topographic astigmatism was 6.52 ± 1.80 diopters (D). The mean manifest refraction astigmatism was decreased from 6.55 ± 1.62 D to 2.80 ± 1.43 D ( $p < 0.001$ ). The mean Surgically induced astigmatism (SIA) was 3.74 ± 0.77 D according to vector analysis. There was no patient with graft rejection or failure, the mean endothelial cell loss rate was 12.75 ± 3.76% (7–17%). There was no patient requiring IOL reposition.

#### Conclusions

Toric IOL implantation during cataract surgery provides an option to correct astigmatism in post-PK eyes with high regular astigmatism. When appropriate patients are selected it is a safe method to achieve significant improvements in visual acuity and astigmatism.

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