

# A clinical trial on phakic intraocular lens for the treatment of refractive amblyopia in children and adolescents

## Abstract

**Purpose:** To analyze the demographics and clinical outcomes of posterior chamber phakic intraocular (IOL) implantation for refractive amblyopia in children and adolescents.

**Methods:** A prospective interventional study was performed on children and adolescents with amblyopia at a tertiary eye care center from January 2021 to August 2022. Twenty-three eyes of 21 anisomyopic and isomyopic amblyopia patients operated for posterior chamber phakic IOL (Eyecryl phakic IOL) as a treatment for amblyopia were included in the study. Patient demographics, pre- and postoperative visual acuity, cycloplegic refraction, anterior and posterior segment examination, intraocular pressure, pachymetry, contrast sensitivity, endothelial count, and patient satisfaction scores were evaluated. Patients were followed up at day 1, 6 weeks, 3 months, and 1 year after surgery, and visual outcomes and complications were documented.

**Results:** The mean age of patients was  $14.16 \pm 3.49$  years (range: 10-19 years). The mean intraocular lens power was - 12.20 diopter spherical (DS) in 23 eyes and - 2.25 diopter cylindrical (DC) in four patients. The mean unaided distant visual acuity (UDVA) and best-corrected visual acuity (BCVA) were  $1.39 \pm 0.25$  and  $0.40 \pm 0.21$  preoperatively on the log of minimum angle of resolution (logMAR) chart. Postoperatively, the visual acuity improved by 2.6 lines in 3 months period and maintained till 1 year. Postsurgery, contrast sensitivity in the amblyopic eyes significantly improved, and the average endothelial loss recorded was 5.78% at 1 year, which was statistically insignificant. Patient satisfaction score was statistically significant, with 4.736/5 recorded on the Likert scale.

**Conclusion:** Posterior chamber phakic IOL is a safe, effective, and alternative method for treating amblyopia patients who are noncompliant with glasses, contact lenses, and keratorefractive procedures.

**Keywords:** Amblyopia; anisometropia; anisomyopic; isomyopic; phakic IOL.

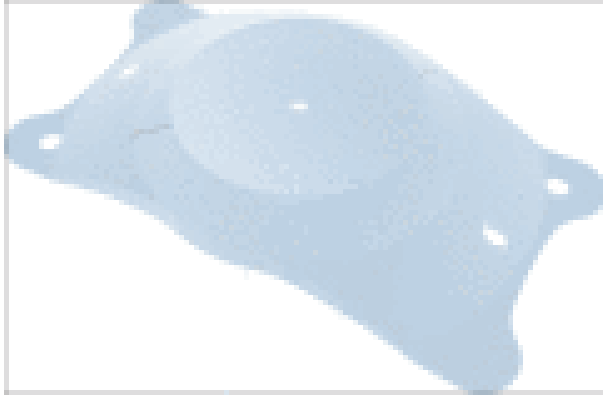


Figure 1 Eyecryl phakic toric IOL. IOL = intraocular lens



Figure 2 Postoperative image of the eye with phakic Eyecryl phakic toric IOL. IOL = intraocular lens