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Efficacy and Safety of Eyecryl Posterior Chamber Phakic Intraocular Lenses for The Treatment of High Myopia: 4-Year Results

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Purpose:
To evaluate the efficacy and safety of posterior chamber phakic intraocular lenses (Eyecryl) for high myopia treatment.

Setting:
University of Health Sciences Beyoglu Eye Training and Research Hospital, Istanbul,

Methods:
Patients treated with Eyecryl (Biotech Vision Care, Luzern, Switzerland) intraocular lens (IOL) implants with follow-up periods of more than four years were evaluated retrospectively. Pre- and post-operative fourth-year spheric equivalent (SE) of manifest refraction values, uncorrected and corrected distance visual acuities (UDVA and CVDA, respectively), and endothelial cell density (ECD) values were analyzed. Complications were evaluated.

Results:
Forty eyes of 20 patients were analyzed. Pre- and post-operative 4th year mean standard error (MRSE) was −13.03±3.13D and −0.72±0.88D, respectively. Pre- and post-operative 4th year UDVA was 1.57±0.21 and 0.26±0.20 logMAR ($p < 0.001$), respectively. The safety index (pre-and post-operative CDVA) was 1.68±0.96 ($p > 0.05$). The efficacy index (ratio of mean postoperative UDVA to mean pre-operative CDVA) was 1.23±0.86. The mean postoperative endothelial cell loss at four-years was 7.24%, and none of the patients had lost 25% of their pre-operative endothelial cells. No serious complications with the potential to affect CDVA were observed.

Conclusions:
Eyecryl posterior chamber phakic intraocular lenses are effective and safe for high myopia surgical treatment. However, the 4-year follow-up period is not sufficient to evaluate the safety profiles in terms of endothelial cells.