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COMPARISON OF VISUAL OUTCOMES AND COMPLICATIONS OF POSTERIOR CHAMBER PHAKIC INTRAOCULAR LENS WITH AND WITHOUT A CENTRAL HOLE IMPLANTATION FOR CORRECTION OF HIGH MYOPIC ASTIGMATISM

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Background: To evaluate the visual outcomes and complications after implantation of new Visian Implantable Collamer Lens (ICL) V4c (with centraflow technology) and conventional V4 ICL for correction of high myopia and myopic astigmatism

Purpose: To evaluate the visual outcomes and complications after Visian Implantable Collamer Lens (ICL) implantation V4c (with centraflow technology) and V4b for correction of high myopia and myopic astigmatism.

Setting: Eye research centre, Rassoul Akram Hospital, Iran University of Medical Sciences and Iranian Eye Clinic, Tehran, IRAN.

Design: Retrospective, comparative interventional case series

Materials & Methods: A retrospective, comparative interventional case series of V4c and V4b ICL implantation done for correction of high myopia and astigmatism. The outcome measures that were evaluated included preoperative and postoperative uncorrected and corrected distant visual acuity (UDVA), (CDVA), endothelial cell count (ECC), presence of lens opacification, intraocular pressure (IOP) and lens rotation. A follow-up of upto one year was done.

Results: 46 eyes underwent V4c ICL with centraflow implantation and 40 eyes had implantation of V4b ICL with intraoperative peripheral iridectomy (PI). The mean preoperative manifest spherical equivalent (MSE) was -8.65 ± 2.8 D and -8.51 ± 3.6 D in the V4c and V4b groups respectively which reduced to postoperative values of $-0.16 \pm .34$ D and $-0.33 \pm .41$ D respectively. The mean preoperative astigmatism was -1.38 ± 1.3 D and -1.65 ± 1.14 D that respectively reduced to -0.51 ± 0.48 D and -0.46 ± 0.37 D. At the end of 1 year follow up, mean ECC loss was 2.41% and 3.17%, respectively in the V4c and V4b groups. No anterior subcapsular opacities were seen in both groups. One eye of V4c (2.2%) and three eyes of V4b (7.5%) group requires re-rotation surgery. The safety indices were 1.21 and 1.32 and efficacy indices were 1.15 and 1.21 in the V4c and V4b groups respectively at the end of one year.

Conclusions: Both V4c and V4b visian ICL implantations have same result in terms of visual outcome and safety profile for correction of high myopia and astigmatism. However, In V4c ICL implantation peripheral iridectomy doesn't require.

Precis: Both V4c and V4 Visian ICL implantations are comparable in terms of visual outcome and safety profile for correction of high myopic astigmatism. However, V4c ICL offers these advantages without the requirement of an additional PI.

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