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5-year prospective follow-up of Artisan phakic intraocular lenses for the correction of myopia, hyperopia and astigmatism.

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Abstract

AIM: To determine the efficacy and safety of Artisan phakic intraocular lenses (IOLs) for refractive error correction.

METHODS: A prospective study was conducted on patients undergoing Artisan phakic IOL implantation for myopia, hyperopia or astigmatism from 2002 to 2008. Visual acuity, manifest refractive spherical equivalent (MRSE), endothelial cell counts and higher order aberrations were recorded pre- and postoperatively.

RESULTS: One hundred and fifty-one (84 patients) myopic (mean MRSE -11.2 ± 4.1 D) and 14 (7 patients) hyperopic eyes (mean MRSE 7.1 ± 1.3 D) were treated. Twenty eyes (11 patients) had toric IOLs to correct astigmatism (mean MRSE -9.05 ± 6.13 D, mean astigmatism 4.06 ± 1.26 D). Three months postoperatively, mean MRSE in 37.6% of eyes was within ± 0.5 D, 61.8% within ± 1.0 D and 91.4% within ± 2.0 D. 18.5% underwent keratorefractive surgery to correct residual refractive error. A 1.56-fold increase occurred in 4th order spherical aberration. Endothelial cell loss was 1.45% at 1 year and negligible at 5 years. Fifty-four eyes (29.2%) gained one or more lines of best corrected visual acuity and no eye lost a line.

CONCLUSION: Artisan phakic IOLs are safe and effective for refractive error correction.