Comparison of post-cataract-surgery visual outcomes in patients bilaterally implanted with two conventional diffractive multifocal IOLs

Poster Details
First Author: Z.Khatib  
Co Author(s): S. Haldipurkar V. Shetty D. Shah P. Sankhe A. Khan P. Das

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Purpose:
To compare the visual outcomes in patients bilaterally implanted with a new bifocal IOL (Eyecryl ACTV Diffractive Multifocal IOL, Biotech) versus an established bifocal IOL (AcrySof® IQ ReSTOR® multifocal IOL, Alcon).

Setting:
Laxmi Eye Institute, Panvel.

Methods:
A prospective study on above 2 IOLs, with sample size of 59 patients (Restor – 30, Eyecryl – 29). To quantify and compare overall visual performance of the 2 IOLs, we devised a method using defocus curve. Area under curve was calculated from 0D to -4D(6metres to 25cms) for each IOL and statistically compared. Similarly, area under curve was compared for distance(6 metres to 1 metre), intermediate(1 metre to 50cms) and near(50 cms to 25 cms) vision. Other parameters compared were - higher order aberrations, contrast sensitivity and stereopsis. Validated questionnaires were used to assess Dysphotopsias and Quality of life (VfQ33).

Results:
The defocus total area under curve was significantly greater for Eyecryl group(1.85) as compared to Restor group(1.26), indicating better overall visual performance in the Eyecryl IOL. Similarly, area under curve was compared for distance(6 metres to 1 metre), intermediate(1 metre to 50cms) and near(50 cms to 25 cms) vision. Other parameters compared were - higher order aberrations, contrast sensitivity and stereopsis. Validated questionnaires were used to assess Dysphotopsias and Quality of life (VfQ33).

Conclusions:
Even though for most of the secondary parameters like stereopsis, higher order aberrations and dysphotopsias both IOLs performed equally well, the Eyecryl IOL proved to be superior to the Restor IOL in terms of overall visual performance, range of vision and quality of vision.

Financial Disclosure:
None