OUTCOMES OF TORIC IOL IMPLANTATION IN KERATOCONUS PATIENTS USING INTRAOPERATIVE ABERROMETER SYSTEM

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PURPOSE

To evaluate the use and effectiveness of intraoperative aberrometry in patients with keratoconus undergoing cataract surgery with a toric IOL.

METHODS

Charts were reviewed of patients with the diagnosis of keratoconus who underwent cataract surgery with toric IOLs implanted using intraoperative aberrometry guidance between January 2012 and July 2013. Uncorrected and best corrected visual acuity (UCVA, BCVA) and manifest refraction were compared pre- and postoperatively. Surgical data including results of aberrometry, changes in IOL spherical and toric power, and position of toric IOL were evaluated.

RESULTS

Twenty-six eyes of 16 patients with keratoconus were reviewed. Average preoperative sphere was -5.75 D (range, 0.00–14.00), and cylinder was 3.30 D (range, 1.00–7.00). Postoperatively, 92% saw 20/40 UCVA. Average sphere and cylinder were -0.30 D and 0.52 D, respectively. Aberrometry recommended changes in IOL spherical power in 17 eyes, but only three were changed. Fourteen eyes would be more hyperopic if IOL power were changed based on aberrometry. Toric power was changed in 12 eyes based on aberrometry. Eleven out of 12 had 0.50 D or less of residual cylinder. In 12 eyes, the IOL was rotated based on intraoperative readings.

CONCLUSION

The use of toric IOLs and intraoperative aberrometry is not approved for eyes with irregular astigmatism. Excellent visual results can be obtained in appropriately selected keratoconic patients. Intraoperative aberrometry may lead to more hyperopic results but can be useful in determining overall toric power and position.