Safety, Efficacy of Kamra Corneal Inlay Shown at 3-Year Follow-Up

The Kamra corneal inlay (AcuFocus, Inc.) was safe and effective for the correction of presbyopia in naturally emmetropic presbyopic patients, according to 3-year follow-up results published in the Journal of Cataract & Refractive Surgery. Despite significant gains in near and intermediate UCVA, however, 28.3% of patients lost 1 line of distance BCVA.

Researchers at the University Eye Clinic, Paracelsus Medical University, in Salzburg, Austria, conducted a prospective, nonrandomized, noncomparative cohort study in 32 naturally emmetropic presbyopic patients. The corneal inlay was implanted in patients’ nondominant eyes. Refraction; near, intermediate, and distance UCVA; distance BCVA; contrast sensitivity; visual fields; subjective patient satisfaction and symptoms; and intra- and postoperative adverse events and complications were evaluated.

Mean near UCVA improved from J6 preoperatively to J1 at 3 years postoperatively, and mean intermediate UCVA improved from 20/40 to 20/25. Ninety-seven percent of eyes had near UCVA of J3 or better, and 91% had an intermediate UCVA of 20/32 or better. The mean distance UCVA was 20/20, with all eyes achieving 20/32 or better.

Nine eyes (28.3%) lost 1 line of distance BCVA, one eye (3.1%) lost more than 2 lines (3.8 lines), and three eyes (9.3%) gained 1 line. No inlay was explanted, and no inflammatory reactions were observed. A total of 15.6% of patients reported severe night vision problems, and 63% reported being dependent on reading glasses, compared with 87.5% preoperatively.

“The 3-year follow-up data is very encouraging,” study author Wolfgang Riha, MD, told CRST Europe. “In addition to the impressive visual improvements, patients had no significant safety issues. We are making great strides toward the ultimate goal of a presbyopia-correcting procedure that is efficient, stable, predictable, and reversible.”


Prediction Power More Accurate for IOls With Labeled Manufacturing Tolerance

IOls available in 0.25 D increments with a labeled manufacturing tolerance increased the percentage of patients within ±0.25 D of the targeted refraction to a statistically significant and clinically meaningful degree compared with unlabeled IOls available in 0.50 D increments, according to a study in the Journal of Cataract & Refractive Surgery.

In total, 118 eyes underwent cataract surgery and implantation of an IOl available in 0.25 D increments and labeled with a manufacturing tolerance of ±0.11 D (n=67) or an IOl available in 0.50 D increments without a labeled manufacturing tolerance (n=51).

Based on the SRK-T formula, the mean error of prediction after optimization was -0.03 ±0.35 D (standard deviation) in the labeled group and -0.05 ±0.46 D in the unlabeled group (P=.64). The mean absolute error of prediction was statistically significantly smaller in the labeled group (0.26 ±0.23 D) than in the unlabeled group (0.37 ±0.28 D; P=.04). The mean absolute errors were not statistically significantly different with the Holladay 1 or Hoffer Q formula. Sixty-three percent of patients in the labeled group and 43% in the unlabeled group (P=.03) were within ±0.25 D of the prediction error; 84% and 69%, respectively, were within ±0.50 D (P=.06).


Optically Measured Lens Thickness More Accurate for Calculating IOL Power

Lens thickness derived from age should not be used to calculate IOL power, according to a study in the Journal of Refractive Surgery. Optical measurement of lens thickness is more accurate than an age-derived value, the authors said.

Sheridan Lam, MD, of DuPage Ophthalmology, Lombard, Illinois, conducted a study in which 93 eyes underwent optical low coherence reflectometry (OLCR) before cataract surgery. Lens thickness determined by OLCR was used to calculate the IOL power; mean absolute refractive error and mean refractive error were also calculated. Regression analysis between age and lens thickness was performed. The expected IOL power, mean absolute refractive error, and mean refractive error were calculated with two age-derived lens thickness formulas (lens thickness = 4+[age/100] and lens thickness = 3.81{0.0119xage}).

“Lens thickness by OLCR was not significantly different