10 years after LASIK and PRK

Stefanie Petrou Binder MD
in London

TEN years after some of the first photorefractive keratectomy (PRK) and laser-assisted in situ keratomileusis (LASIK) surgeries, patients are showing stable corneal and visual results, a Spanish study confirms.

Jorge L Alio MD, PhD, Vissum Instituto Oftalmologico de Alicante, Alicante, Spain, reviewed the long-term results of 200 eyes that had undergone laser refractive surgery. The eyes were treated for up to -10 D myopia or myopic astigmatism.

“10 years after surgery, LASIK and PRK are both good refractive procedures, with a trend towards greater myopic regression for LASIK. At the same time, LASIK had somewhat superior refractive results, due to the better outcomes of the cylinder correction,” he told a session of the XXIVth Congress of the ESCRS.

Of the 200 eyes included in Dr Alio’s investigation, 100 eyes underwent PRK and the other 100 underwent LASIK surgery with a Visx 20/20 excimer laser. He followed the patients for 10 years after surgery, measuring corneal power, uncorrected and corrected visual acuities, and refractive error.

Ten years postoperatively, the mean spherical equivalent was -0.88 ± 1.4 D and -0.66 ± 1.4 D for eyes operated by PRK and LASIK, respectively. Mean pre-operative values were -7.5 ± 1.11 D for the PRK group and -8.7 ± 1.15 D for the LASIK group.

The mean safety and efficacy indices in the PRK group were 1.04 and 0.81, respectively, and 1.16 and 0.82 for the LASIK group.

Corneal keratometry measurements averaged 38.69 ± 2.3 D in PRK patients and 38.55 ± 2.4 D in LASIK patients. The changes in corneal keratometry and topographical cylinder over the 10 years since surgery were minimal, Dr Alio emphasized.

Myopic regression was -1.05 D for PRK and -1.65 D for LASIK over the 10-year period. The difference in regression was at the limit of statistical significance (p = 0.051), Dr Alio noted.

Dr Alio explained that not all of the 10-year results comparing LASIK and PRK had statistical significance. For instance, differences in uncorrected acuity showed a significance of p = 0.052, ie, not significant. The differences in best-corrected acuity and myopic regression in the two treatment groups were also statistically insignificant.

Conversely, the differences in topographical cylinder and spherical equivalent were statistically significant at p=0.017 and p=0.022, Dr Alio explained. The LASIK results were better.

Noel Alpins MD, the session moderator, wondered how the LASIK results could show a higher incidence of regression while also resulting in better refractive correction than PRK.

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Conversely, the differences in topographical cylinder and spherical equivalent were statistically significant at p=0.017 and p=0.022, with better results seen with LASIK in both cases.

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Daniel S Durrie

CK promising for restoring near vision in post-LASIK presbyopic emmetropes

Cheryl Gutman
in London

CONDUCTIVE keratoplasty (CK, ViewPoint, Refractec) is a safe and effective treatment for improving near vision in presbyopic emmetropes with a history of myopic LASIK, reported Daniel S Durrie, MD at the XXIV Congress of the ESCRS.

He discussed the interim results of an ongoing multicentre FDA study that aims to enroll 150 subjects to receive the monovision CK treatment. The treatment is being performed in the non-dominant eye using a conservative protocol involving eight spot applications at an 8.0mm optical zone to target a 1.25 D add for near vision. Eligible subjects must be at least one year post-LASIK treatment for between -1.0 to -6.0 D of myopia with no more than +0.5 D MRSE and less than 0.75 D of cylinder. In addition, the CK eye must have residual central pachymetry exceeding 400 microns and peripheral pachymetry greater than 560 microns.

Dr Durrie reported three-month outcomes from 60 eyes of 60 patients that showed the procedure resulted in an average effect of 1.17 D that was accompanied by improvement in near and intermediate UVEA, high patient satisfaction, and no safety concerns.

“More and more ophthalmologists are adding CK to their practice armamentarium because it is a simple, safe, and cost-effective procedure for improving near vision. However, the key to success with CK is to apply it to the correct patient, and that person is the plano presbyope,” said Dr Durrie, professor of ophthalmology, University of Kansas Medical Center, Kansas City.

“This well-controlled clinical trial evaluating CK for treating presbyopia in patients who were previously satisfied with their vision after myopic LASIK is part of an expanding story. Its results so far are encouraging in suggesting it may be a good addition to our tools in the battle against presbyopia,” added Dr Durrie, who is also a clinical investigator and medical monitor for the FDA study.

Dr Durrie observed that CK has a number of advantages over LASIK for use as a LASIK enhancement procedure. In addition to being safer, it also can improve near vision while preserving distance vision.

To date, 72 subjects had been enrolled in the FDA study, of whom 66 were seen at one month. The patients ranged in age from 41 to 63 years (mean 52) and included a slight majority of females (56 per cent). The average patient had undergone LASIK about five years earlier for an average MRSE of -3.38 D.

To date, there have been no complications involving the LASIK flap, and Continued on page 25