

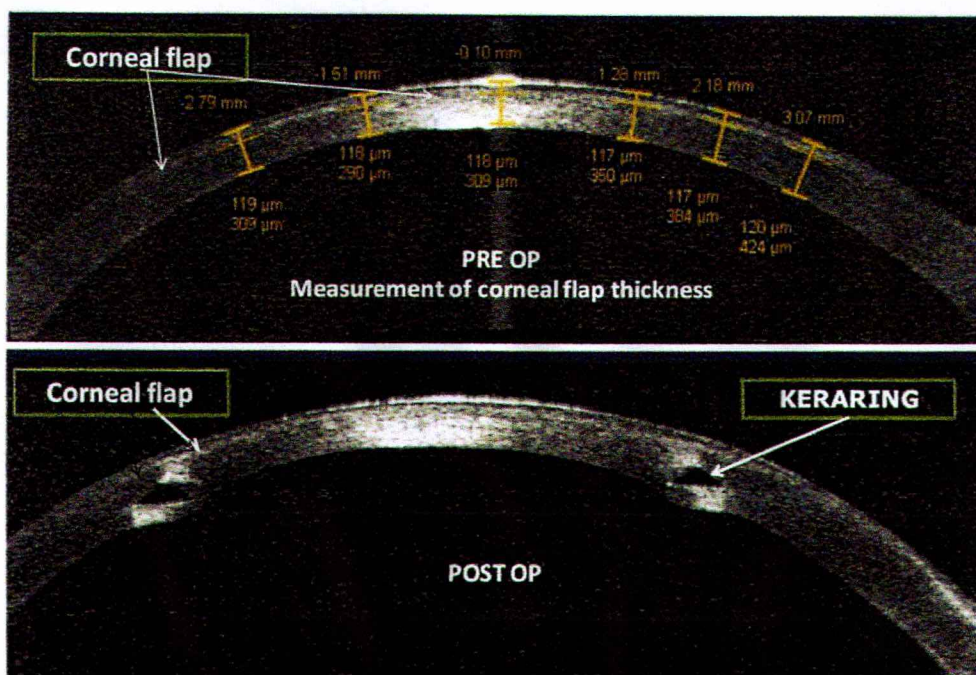
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POST-LASIK ECTASIA

Study shows good outcomes for post-LASIK ectasia treatments

Dermot McGrath

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OCT analysis of the cornea before and after intracorneal ring segments implantation for post-LASIK ectasia

Although post-LASIK ectasia is an increasingly rare complication of refractive surgery, thanks mainly to more effective screening methods for at-risk patients, its occurrence can nevertheless be effectively managed with a combination of strategies to treat the underlying pathology and preserve patients' quality of vision, according to Dominique Pietrini MD. "The incidence of post-LASIK ectasia has diminished in recent years thanks to more effective diagnosis of corneas at risk, using techniques such as epithelial mapping and optical coherence tomography (OCT)," Dr Pietrini told delegates attending the French Implant and Refractive Surgery Association (SAFIR) annual meeting in Paris.

"When it does occur, however, ectasia can be managed effectively, either by treating the underlying pathology if the ectasia is evolving or obtaining an objective improvement in the patient's quality of vision using intracorneal implants or topographic-guided photorefractive keratectomy (PRK)," he added.

Dr Pietrini, in private practice at the Clinique de la Vision, Paris, presented the results of a retrospective study of 148 eyes of 98 patients operated by LASIK between 1998 and 2013 who were subsequently diagnosed with ectasia. The rapid reduction in visual acuity leading to diagnosis of ectasia occurred on average six years after the initial surgery, with the earliest case manifesting just two months postoperatively and the latest 11 years after the LASIK procedure. OCT analysis showed that the corneal flap was created by microkeratome in 86 cases, femtosecond laser in 50, and undetermined in the remainder.

"There was some suggestion when femtosecond lasers were first introduced that they might potentially protect against



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the possibility of post-LASIK ectasia, which clearly hasn't been borne out in reality," Dr Pietrini said. The mean residual stromal bed was 288 microns (range 170 to 448), mean flap thickness was 147 microns (range 112 to 204), and mean pachymetry at the thinnest point was 437 microns (range 324 to 584).

In terms of treatment options, a non-surgical approach using contact lenses and regular monitoring was successfully employed in 46 patients whose ectasia was deemed to be stable and non-evolving. Treatment of the underlying pathology was necessary in 46 patients with progressive ectasia: 25 eyes received corneal crosslinking (CXL) alone, seven eyes underwent CXL associated with topography-guided PRK and 14 eyes received combination intracorneal rings/CXL. Surgical intervention to restore vision was carried out in 56 eyes: 49 using intracorneal rings combined with femtosecond laser, and seven eyes using topography-guided PRK.

Dr Pietrini noted that the mean uncorrected visual acuity went from 2/10 preoperatively to 5/10 postoperatively. Cylinder was also significantly reduced from a mean of -4.2D preoperatively to -2.7D after surgery. Both keratometry and higher order aberrations also improved significantly after surgical treatment.

"The study showed that treatment is minimally invasive with a good chance of visual rehabilitation without significant risk to the patient. Early intervention is also advised as this leads to better outcomes for the patient," he concluded.

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