

POST-LASIK ECTASIA

Surgical management of post-LASIK ectasia effective for majority of patients

by Dermot McGrath in Paris

While still one of the most feared complications of refractive surgery, post-LASIK ectasia can be successfully managed with a combination of therapeutic strategies to preserve patients' quality of vision and delay and arrest the progression of the underlying pathology, according to Dominique Pietrini MD.

"There are two main components in treating post-LASIK ectasia – first, visual rehabilitation which is usually achieved with corneal ring implants and/or topography-guided PRK, and then collagen crosslinking with riboflavin (CXL) to treat the underlying condition. Using these techniques, we can achieve a gain of up to three lines of uncorrected visual acuity, and a significant reduction in corneal astigmatism and higher order aberrations," Dr Pietrini told delegates attending the French Implant and Refractive Surgery Association (SAFIR) annual meeting.

Dr Pietrini, in private practice at the Clinique de la Vision, Paris, said that the incidence of post-LASIK ectasia remains rare, with a frequency of between 0.008 per cent and 0.66 per cent reported in the scientific literature.

"While this works out at about one case of ectasia for every 5,000 LASIK procedures, it is still very much a feared complication because of its potentially devastating impact on a patient's quality of vision," he said.

Dr Pietrini's study included 54 eyes of post-LASIK ectasia patients with a follow-up ranging from six months to four years.

"We proposed surgical treatment for 36 of those patients comprising either corneal rings and/or CXL or surface ablation PRK or CXL. The average patient age was 36 years and the initial LASIK surgery was carried out between 1999 and 2011. The mean time between the original LASIK procedure and the secondary intervention was three years. Interestingly, a microkeratome was used in 69 per cent of the ectasia cases and femtosecond laser in 30 per cent, so the femtosecond has not entirely eradicated the problem," he said.

Dr Pietrini noted that the average spherical equivalent went from -2.96 D preoperatively to -1.49 D postoperatively. Subjective cylinder was also significantly reduced from a mean of -3.36 D preoperatively to -1.58 D after surgery.



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Both uncorrected and best-corrected visual acuity also improved significantly after surgical treatment.

Dr Pietrini said that forme fruste keratoconus was apparent in 10 cases based on preoperative topography maps, and insufficient residual stromal bed thickness was found in four cases. No identifiable aetiology was found in two patients who presented a perfectly normal preoperative topography, he said.

Intacs (Addition Technology) intracorneal rings were implanted using femtosecond laser in three eyes, while 28 eyes were fitted with Keraring (Mediphacos). Ten of the latter patients were also treated with associated CXL. Three patients were treated by topography-guided PRK.

The option not to operate with either corneal rings or CXL was taken for 18 out of 54 patients, said Dr Pietrini.

"These cases concerned those patients in whom the best corrected visual acuity was maintained, who tolerated the use of soft or hard contact lenses, and in whom the pathology was stable with an absence of progression of the disease," he said.

Dr Pietrini advised close monitoring of all post-LASIK ectasia patients.

"Close topographic surveillance is indispensable for these patients as we need to keep an eye on the potential evolution of the condition, which is sometimes late onset in cases of pellucid marginal degeneration, and of course after the secondary treatment," he said.

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