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CORNEA/EXTERNAL DISEASE

Study: Corneal sensation reduced after LRIs

In one of the first studies to evaluate the effects of limbal relaxing incisions on corneal sensation and dry eye, a speaker reported that corneal sensation was reduced for at least 3 months postop.



Eric D. Donnenfeld

“Limbal relaxing incisions, it appears, will make dry eye worse in a majority of patients,” **Eric D. Donnenfeld, MD,** said.

Dr. Donnenfeld and colleagues conducted a prospective, multicenter observational trial to analyze the impact of limbal relaxing incisions (LRIs). Twenty patients age 50 years or older scheduled to undergo clear corneal cataract extraction with planned 2 clock hour LRIs to correct corneal astigmatism were screened at 1 day, 1 week, 1 month and 3 months postop.

The study showed the largest reduc-

tions in corneal sensation were near the LRIs and at the center of the cornea, he said, noting the reductions were almost identical to what patients experience with LASIK.

Dry eye disease also is often associated with reduced corneal sensation, Dr. Donnenfeld said, and further analysis of dry eye signs and symptoms related to LRIs are under way.

“If you’re considering performing limbal relaxing incisions, I think it behooves you to do a thorough dry eye evaluation,” Dr. Donnenfeld said. “I am very intrigued and very hopeful that some of the new tests that have become available now, like tear osmolarity, will allow us to screen patients more efficiently.”

Disclosure: Dr. Donnenfeld is a consultant for AcuFocus, Allergan, Alcon, AMO, AqueSys, Bausch + Lomb, CRST, Elenza, Glaukos, LacriPen, LenSx, Merck, NovaBay, Odyssey, Pfizer, QLT, SARcode, TearLab, TLC Laser Centers, TrueVision and WaveTec.

PERSPECTIVE

Two 60° arc lengths of LRI are relatively large for an incision pair to be uniformly beneficial in a group of patients. The raised awareness of the potential for hypoaesthetic dry eye provided by this useful presentation will help avoid such problems. It is not mentioned whether these were on the horizontal meridian or elsewhere in relation to corneal innervational plexus of nerves. A further test at 6 months would be useful as nerve

regeneration may take this extended period of time to be completed. These patients all had two LRI incisions and including phaco totaling three incisions, so consideration could be given to an “on axis” phaco incision with one opposite LRI, which would reduce the overall surgical disruption to the eye, achieving the same refractive effect. LRI incisions of the usual 30° to 45° length may also reduce the significant loss of corneal sensation reported in this series.

– **Noel A. Alpins, MD**

OSN Refractive Surgery Board Member

Disclosure: Dr. Alpins has no relevant financial disclosures.