Crosslinking-Enhanced Hyperopic LASIK: No Regression Benefit at 6 Months

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NEW ORLEANS — The addition of corneal crosslinking to hyperopic LASIK surgery is safe but offers no significant gains in the prevention of visual regression or in other clinical outcomes at 6 months, a prospective study indicates.

"Adjunct crosslinking in hyperopic LASIK is safe, with outcomes similar to control eyes," said lead researcher Avi Wallerstein, MD, from McGill University in Montreal.

Crosslink-treated eyes "had minimal regression of effect at 6 months," he told *Medscape Medical News*.

Crosslinking was recently approved by the US Food and Drug Administration.

The study findings were presented by Nataly Trang, MD, a third-year resident at Laval University in Quebec City, Canada, here at the American Society of Cataract and Refractive Surgery 2016 Symposium.

All 48 study participants were treated with LASIK plus crosslinking in the eye with the most severe hyperopia. The contralateral eye, which served as the control eye, was treated with LASIK only. When vision was equal in both eyes, treatments were randomly assigned.

Dr Wallerstein and his colleagues compared pre- and postmanifest refraction, uncorrected distance visual acuity, corrected distance visual acuity, and higher-order aberrations at 6 months. They also performed cylinder vector analysis and assessed patient-reported quality of vision.

To perform crosslinking, the surgeon placed 0.25% riboflavin on the stromal surface after excimer ablation for 3 minutes. After the flap was replaced, the eye was treated with ultraviolet light 18 mW/cm² for 3 minutes.

At 6 months, regression did not significantly differ between the two treatment groups. In addition, at 6 months, there were no significant differences between groups in accuracy, efficacy, induced higher-order aberrations, subjective quality-of-vision ratings, or clinically relevant increase in haze.

No intraoperative or postoperative complications were noted.

Table. Six-Month Outcomes

Outcome	Crosslinking Group	Control Group
Accuracy, ± 0.50 D	83%	81%
Uncorrected distance visual acuity efficacy index	0.92	0.93
Change in corrected distance visual acuity	1.01	1.00
Change in spherical equivalent refractive stability > 0.50 D	22%	22%
Cylinder vector correction index	1.09	1.07
Grade of haze	0.09	0.03
Patient-rated uncorrected vision "better"	90%	95%

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