Reviewer's report

Title: Hyperopic shift after LASIK induced Diffuse Lamellar Keratitis

Version: 1 Date: 21 December 2005

Reviewer: David R Hardten

Reviewer’s report:

General

Cases of Diffuse lamellar keratitis are always interesting, in that they remind us that patients with diffuse lamellar keratitis can have profound visual changes if not managed with careful medical and surgical treatment as needed.

This case does not sound like the typical diffuse lamellar keratitis, in that it lasts for a long period of time with inflammation. The typical DLK case has minimal impact on vision at day one (here on day one, VA worse than 20/200). Usually then at day 3, the vision falls mildly, with an increase in cells in the stroma and interface. Here in this reported case, there were multiple foci of infiltrates as apposed to the “diffuse” nature of DLK. (See JCRS - Linebarger, E.J., Hardten, D.R., Lindstrom, R.L.: Diffuse lamellar keratitis: diagnosis and management. J Cataract Refract Surg 2000;26(7):1072-1077. ) Usually all the inflammation is gone by 1-2 weeks postop.

It would be helpful to have pictures of the DLK to help readers understand what has gone on in this case.

It is not unusual if stage IV DLK is allowed to occur to have long lasting interface scar, and this is usually accompanied by inferior flattening, with hyperopic effect, and decrease in BCVA with irregular astigmatism. Lifting and irrigating the interface appear to be able to prevent stage IV from occurring if performed at day 2 or 3.

The authors explain that the refractive index of the stroma may have changed, although it seems more likely that irregular astigmatism would be more likely, with flattening not in the area of the simulated K readings. Topography would be helpful to manage this.

Was this patient managed with the typical irrigation of the interface at day 3-4?

At least in the US, this phenomenon is not relatively new, and has been described for several years as the authors note with their choice of references. It is also apparently on the decline, although I believe they are correct in that it is relatively underreported.

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

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Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)
Discretionary Revisions (which the author can choose to ignore)

What next?: Accept after minor essential revisions

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No

Declaration of competing interests:

I consult for TLCVision, VISX, and do research for Alcon, B&L, AMO, STAAR, and Ophtec.