Controversy continues over role of clear corneal incisions in rising rate of endophthalmitis

Cheryl Guttman
In New Orleans

WHILE here has been an indisputable increase in the incidence of endophthalmitis following cataract surgery over the past 10 years, the association between that increase and the wide adoption of clear corneal incisions (CCI) over the same period remains controversial.

Speaking at the annual AAO conference during "Spotlight on Cataract 2000: Cataract Controversies," J. Larry Mcdonnell, MD, Director, Wilmer Eye Institute, Johns Hopkins University School of Medicine, Baltimore, presented data from several studies conducted at his institution pointing to a rising risk of post-cataract surgery endophthalmitis and providing plausibility for a causal role of the CCI.

In follow-up, L. Howard Fine, MD, clinical professor of ophthalmology, Carney Eye Institute, Oregon Health and Science University, Portland, Oregon, presented evidence supporting the necessity of the CCI that he introduced more than a decade ago. In addition, he pointed to potential flaws in studies suggesting a link between CCI techniques and an increasing rate of endophthalmitis and suggested alternative factors that may account for the phenomenon of the increasing number of endophthalmitis cases.

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As a bottom line, however, Dr. Fine pursued our data carefully and meticulously surgical technique is critical determinants influencing endophthalmitis risk, and he described his own protocol for maximizing safety.

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Dr. Fine emphasized the use of viscoelastic that will maintain a stable firm eye and ensure reproducible incision construction. To strengthen architecture, he said the incision should be made on a single plane in the plane of the cornea using a microsurgical blade, which will create an incision resistant to overlocking and tearing. The preferred dimensions are at least 2.5 mm for length and between 2.5 and 3.5 mm for width. During cataract removal, Dr. Fine advised surgeons to avoid grasping the superior lip of the incision with a forceps, to always insert a cannula before placing instruments within the eye, and to select bendable instruments introduced bevelled side down. To avoid compromising incision architecture during IOL implantation, he cautioned against stretching the incision aggressively, recommended using a fixation ring to stabilise the eye, and noted an injector is far superior to a forceps for introducing the lens.

In closing the discussion, Dr. Fine routinely performs coronal hydration of both the CCI and cannulas. His other tips were to avoid over-pressureing the eye, place a bandage contact lens if the epithelium in the roof of the incision is abraded, suture if there is any question about the incision's self-sealing nature, and always cost for lensing with fluorescein dye.

For antibiotic prophylaxis, Dr. Fine uses a four-generation fluoroquinolone administered four times a day beginning three days preoperatively and continued after surgery.

Peter J. McDonnell, MD
pjm@aal.edu

Howard Fine, MD
hfine@al.com

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