It’s clear – corneal incisions are still an issue

Clear corneal incisions have been the standard for cataract surgery for more than 15 years. However, there are lingering concerns about potential problems associated with this approach. JCRS co-editor Emanuel Rosen FRCSE addresses these questions in a lead editorial. He notes that clear corneal incisions have been the norm because of ease of access anterior to the iris plane. One concern has been that the wound from such incisions may be unstable, potentially increasing the risk for postoperative endophthalmitis. An unstable wound characterised by endothelial gaping or loss of coaptation could allow access to contaminated ocular surface fluids. Another concern is that incisions could be distorted by phaco instruments, IOL injectors and other tools, offering another route for infection. These concerns in turn raise questions about the utility of sutures and the optimal approach to antibiotic prophylaxis. Dr Rosen discussed the current thinking on these issues along with new approaches to facilitate wound closure and healing. He also directs readers to a series of articles looking at some of these questions.


Corneal incision integrity

Researchers at the Wilmer Eye Institute studied ex vivo human eyes in an effort to determine the most favourable sutureless incision configuration to minimise extracocular fluid inflow after cataract surgery. They compared the relative merits of three incisions performed at different quadrants – uniplanar 1.0mm and 3.0mm tunnel lengths and 2-step 3.0mm tunnel length. They found that IOP fluctuations may promote entry of bacteria-size particles into the eye with 1.0mm and 3.0mm single-plane incisions, while the stepped incisions appeared to be more resistant to inflow. W May et al, JCRS, “Analysis of clear corneal incision integrity in an ex vivo model”, June 2008, Vol 34 Issue 6, 1013-1018.

Fluid ingress comparison study

How do microcoaxial, standard coaxial, and bimanual phacoemulsification compare when it comes to ocular surface fluid ingress into the anterior chamber? Investigators at the Ila Devi Cataract and IOL Research Centre, Ahmedabad, India, conducted a prospective randomised observational study of 180 consecutive patients in which Trypan blue was applied over the conjunctival surface, and the amount of ingress was assessed after cortex removal and at the end of the surgery after intraocular lens insertion and stromal hydration. They found that Trypan blue ingress was statistically significantly higher in the bimanual group than in the standard coaxial and microcoaxial groups at both time points. R Mamidipudi et al, JCRS, “Comparative quantification of ingress of trypan blue into the anterior chamber after microcoaxial, standard coaxial, and bimanual phacoemulsification: Randomized clinical trial”, June 2008, Vol 34 Issue 6, 1007-1012.

Controversies in Cataract and Refractive Surgery

Sunday, September 14, 2008, 15:00 – 17:00, Berlin, Germany

Chairs: Emanuel S. Rosen, FRCSE, Thomas Kohnen, MD

- Bimanual Versus Coaxial Phaco Surgery
- Multifocal IOL Versus Accommodating IOL
- Presbyopia, the Multifocal Cornea: Corneal Inlays Versus Presbyopic LASIK
- LASIK Flaps: Microkeratome Versus Femtosecond

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