Evolutionary and revolutionary trends in vitreoretinal surgery

Donald J D'Amico

In 1981, the burning issues of the day revolved around which diathermy technology was safer – clips on the instrument or a unimanual device? Should the surgeon always buckle a diabetic vitreotomy? Is the surgeon always to cryo the sclerotomies and was cryo-under-air safe? Do you pre-diathermise a diabetic dissection? Which technique of post-op air/fluor exchange was best? Should anti-proliferatives be injected to prevent PVR?

Today, many of these questions have been answered, and instruments have been developed that are far superior to those used in 1981. Some of these include high-speed 20, 25 and now even 23 gauge vitrectors. Infusion fluid has been automated and surgeons use wide-angle endoloupes and xenon light sources. Vitreoretinal surgeons now have the benefit of wide viewing endoscopy, curved vitreous scissors, vitreous forceps with refined illumination, and fluo/flight that is automated. Indirect ophthalmic endoloupes are probably the single most important advance in this type of surgery, he noted.

Techniques continue to evolve

Techniques have come a long way, as well, with en-bloc excisions, viscoselamination, retinotomy/retinectomy, keratoprosthesis, surgery under air, perfluorocarbon techniques like giant tear unfolding, subretinal fluid expression, and membrane peeling with haemostasis; hyaloid removal, ICG and triamcinolone for peeling, IOI implantation during same surgery, etc. Dr D’Amico said that surgeons today do not do retinal tacks as much, or CNV membrane removal, although it is useful in some cases. He observed that macular translocation is performed less and less, in spite of the fact that there is still a role for this technique, while radial optic neurotomy, lamina puncture, and BRVO surgery are as good as obsolete.

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