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At a Glance

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Trends in rates of retinal surgery in England

El-Amir et al analysed routinely collected hospital statistics to describe trends over time and geographical variation in rates of vitreo-retinal surgery in England (1968 to 2004). Annual admission rates (per 100 000 population) for surgery were about five episodes in the 1960s, rising gradually to about 10 in early 1990s, and then more sharply to 30 by 2004. Multiple admissions per person were rare, confirming that the observed increase was real. Annual rates (2004) for buckle procedures declined to about 6 episodes whereas vitrectomy surgery rose to about 26 episodes. The authors also demonstrated statistically significant geographical variation in the current annual rate of surgery between local authorities in England.

Vision-related quality of life and visual function following surgery for macular hole

Fukuda et al evaluated the relationship between vision-related quality of life (VR-QOL) and visual function in 32 patients undergoing vitrectomy, gas tamponade and cataract surgery for macular hole (MH). The 25-item National Eye Institute Visual Function Questionnaire (VFQ-25) was self-administered preoperatively and at 3 months postoperatively. Vitrectomy for MH significantly improved VFQ-25 composite score as well as subscale scores. Multiple regression analysis revealed that the severity of metamorphopsia had a significant correlation with VFQ-25 composite score.

Residual torticollis after strabismus surgery for congenital superior oblique palsy

Lau et al studied postoperative residual vertical deviation and abnormal head posture (AHP) in 32 children after surgical treatment for congenital superior oblique palsy (SOP). The success rate for eliminating significant AHP after strabismus surgery with congenital SOP was 68.8%. Early surgery was associated with a better outcome. Association was also found between sternocleidomastoid tightness and AHP. The authors recommend a multidisciplinary approach in the management of torticollis as ophthalmic and orthopaedic comorbidities can coexist.

PRK with mitomycin C and LASIK

Wallau and Campos compared results of PRK with mitomycin C (MMC) and LASIK for custom correction of moderate myopia in 88 eyes (44 patients) who were randomised to PRK with MMC in one eye and LASIK in the fellow eye. At 1-year follow-up, excellent vision was reported in 64% of LASIK and 74% of MMC-PRK eyes. LASIK eyes showed a greater higher-order aberration and lower contrast sensitivity than MMC-PRK eyes. The corneal resistance factor and corneal hysteresis were higher in LASIK than in MMC-PRK eyes.

Surgically induced astigmatism after phakic IOL

Kamiya et al assessed astigmatism induced after phakic IOL implantation in 73 eyes (47 patients) undergoing surgery through a horizontal 3.0 mm clear corneal

incision. The corneal astigmatism was measured with automated keratometer and corneal topography. The surgically induced astigmatism was assessed by vector analysis using the Holladay-Cravy-Koch formula. The surgically induced astigmatism was 0.45 D at an axis of 93.3 degree using the keratometer and 0.49 D at an axis of 98.0 degree using corneal topography. The authors conclude that the induction of corneal astigmatism through a with-the-rule astigmatic shift of approximately 0.5 D was small, but not negligible for candidates undergoing refractive surgery.

Pain in ischaemic ocular motor cranial nerve palsies

Wilker et al studied natural history of pain in 87 patients with acute onset microvascular ischaemic single cranial nerve palsy (III, IV or VI) that progressively improved or resolved over 6 months. Thirty-six (41%) patients had diabetes. Pain was present in 62% of total events. Pain preceded diplopia by 5.8 days in one-third of events. There was a trend towards greater pain with CN III palsy. Patients who experienced severe pain tended to have pain for a longer duration. Contrary to the belief that diabetic patients have more pain, the authors observed that nondiabetic and diabetic patients presented with similar pain characteristics.

Robotic corneal transplantation

Bourges et al determined feasibility of bimanual teleoperated robotic penetrating keratoplasty (PK) in porcine and cadaver human eyes. Using da Vinci surgical robot loaded with a dual-channel video and two, 360 degree-rotating, 8 mm wristed-end effector instruments, a remotely seated surgeon could successfully perform all components of PK including mechanical trephination, placement of cardinal sutures, continuous 10.0 nylon sutures and suture adjustments. Further studies incorporating femtosecond laser and other automated steps are planned.

Topography of retinal ganglion cell loss in human glaucoma

Lei et al determined whether retinal ganglion cell (RGC) loss influences the loss of surrounding RGCs to generate clustered patterns of cell death in human glaucoma. 6 glaucomatous retinas and 6 age-matched control retinas were prepared as whole mounts, stained by DAPI, and an area corresponding to central 14 degree of the visual field was imaged. Clustered RGC loss on a background of diffuse loss was observed in glaucomatous retinas. The authors conclude that while the diffuse of cell loss can account for an overall reduction in the RGC population, an additional non-random pattern is consistent with the hypothesis that RGC loss has a local influence on the viability of surrounding cells.