1592

During the 6 month pilot of the technique, there were two cases where a seemingly benign lesion showed histological malignancy (BCC) after excision.

Conclusion

Accurate localisation is essential for both excision and incision biopsies. The 2D trilateration technique, using the medial and lateral canthi as reference points, is particularly useful if the patient without baseline photographs is referred to another unit. We would advocate this simple technique for localising all lesions on or near the lid margin.

Conflict of interest

The authors declare no conflict of interest.

G Lewis, D Morris and C Lane

Department of Ophthalmology, University Hospital of Wales, Cardiff, Wales, UK E-mail: garethlewis@doctors.org.uk

Eye (2012) **26**, 1591–1592; doi:10.1038/eye.2012.172; published online 31 August 2012

Sir, Virtual reality phacoemulsification training

Virtual reality surgical simulation training improves resident performance as measured by the simulator itself and wet-lab performance.^{1,2} However, there is little published data showing that simulators improve 'real life' resident surgery performance.³

We performed a retrospective comparative consecutive study of resident surgical outcomes at our institution (approved by the Institutional Review Board of Henry Ford Health System, Detroit, MI, USA) before and after the introduction of the Eyesi surgical simulator (VRmagic, Mannheim, Germany). The first 50 phacoemulsification cases of 20 residents (5 residents completing residency per academic year, 2007–2010) were studied. Simulator-group residents were required to complete at least 6 h of simulator training. All 20 residents received significant wet-lab training (24 h structured course, including 4 h of wet-lab phaco), and surgical case supervision and coaching. Both the simulator and the wet-lab were easily accessible for residents who wanted additional training. Outcome measures were the incidence of posterior capsule tears and operating time.

The nonsimulator and simulator groups each comprised 500 cases with 40 and 35 posterior capsule tears, respectively. Analysis of the first 25 cases of each resident yielded complication rates of 8.8% and 10.0% for the nonsimulator and simulator groups, respectively, and 7.2% and 3.6% (P = 0.11) for cases 26 through 50, respectively. The percentage of long cases (defined as >40 min) for cases 10 through 50 was 42.3% and 32.4% (P = 0.005) for the nonsimulator and simulator groups, respectively (Figure 1).



Figure 1 Bar graph of the percentage of resident cases with surgical time greater than 40 min. Each 10 cases for each of the 10 residents in the two groups (~100 cases per group) are compared using the χ^2 test.

Comment

As the simulator residents performed better for their later cases, it appears that simulator training was beneficial for trainees who have commenced 'live surgery' training. Possible reasons for the nonsimulator residents performing better for their initial cases could be more attending intervention or conversely, superior natural resident ability. Because of the retrospective data collection, we were not able to differentiate between these possibilities. Other study limitations were that variation in resident and patient characteristics could not be accounted for. Study strengths include consistent surgical technique (divide and conquer), instrumentation, and surgical instructors. Our study supports the suggestion that the addition of virtual reality surgical training to an established surgical training program slightly shortens the learning curve for the first 50 phacoemulsification cases.

Conflict of interest

The authors declare no conflict of interest.

Acknowledgements

Russell Pokroy received fellowship grants from the American Physicians Fellowship for Medicine in Israel, and from the Israel Ophthalmic Society.

References

- 1 Privett B, Greelee E, Rogers G, Oetting TA. Construct validity of surgical simulator as a valid model for capsulorhexis training. *J Cataract Refract Surg* 2010; **36**: 1835–1838.
- 2 Belyea DA, Brown SE, Rajjoub LZ. Influence of surgery simulator training on ophthalmology resident phacoemulsification performance. *J Cataract Refract Surg* 2011; **37**: 1756–1761.
- 3 Ahmed Y, Scott IU, Greenberg PB. A survey of the role of virtual surgery simulators in ophthalmic graduate medical education. *Graefes Arch Clin Exp Ophthalmol* 2011; **249**: 1263–1265.



R Pokroy, E Du, A Alzaga, S Khodadadeh, D Steen, B Bachynski and P Edwards

Department of Ophthalmology and Eye Care Services, Henry Ford Health System, Detroit, MI, USA E-mail: pokroyr@yahoo.com

Meeting presentations: Presented in part at the Association for Research in Vision and Ophthalmology (ARVO), Fort Lauderdale, FL, USA, May 2011.

Eye (2012) **26**, 1592–1593; doi:10.1038/eye.2012.185; published online 21 September 2012

Sir,

Streptococcus pneumoniae meningitis following postoperative endophthalmitis

Postoperative bacterial endophthalmitis is usually confined to the eye. Metastatic spread to the meninges is very rare and could have a devastating outcome.

Case report

An 87-year-old man presented with one day history of severe pain and reduced vision in his left eye 3 days following uneventful cataract surgery under topical anaesthesia. He previously had successful right cataract surgery and bilateral ptosis correction. His medical history included Hypertension and Aortic Valve replacement.

His visual acuity was 6/60 in the affected eye. Examination revealed corneal epithelial and stromal oedema, +3 cells in the anterior chamber and raised intraocular pressure (45 mm Hg). A red reflex was present but no fundus details were visible.

Intravitreal injections of Tiecoplanin (1 mg) and Ciprofloxacin (0.2 mg) were administered. Oral Ciprofloxacin and topical Tiecoplanin, Ciprofloxacin, Dexamethasone, Ketorolac, and Atropine were commenced.

The AC tap and vitreous tap grew *Streptococcus pneumoniae*, which was sensitive to Chloramphenicol but resistant to Ciprofloxacin. Hence topical Ciprofloxacin was substituted by Chloramphenicol.

Two days later, he developed tonic-clonic seizures and reduced GCS (10/15). An urgent CT of Head did not reveal any intracranial haemorrhage. His bloods showed WBC 26.5, Neutrophils 24.4, and CRP 168. A lumber puncture showed RBCs $1600 \times 10^6/1$, WBCs $2500 \times 10^6/1$ (Neutrophils 95%, Lymphocytes 5%); pneumococcus was positive on PCR.

He was diagnosed with pneumococcal meningitis. Intravenous Ceftriaxone 2 gm BD given for 2 weeks resulted in resolution of meningitis. His final visual acuity dropped to 3/60.

Comment

Postoperative endophthalmitis is a dreaded complication of cataract surgery. Prompt diagnosis and treatment with intravitreal and intensive topical antibiotics is required to salvage vision.¹ Systemic antibiotics may have a role in

prevention of systemic spread of infection. Systemic spread to involve meninges has been reported² once but is extremely rare.

Our patient developed meningitis despite receiving oral Ciprofloxacin because the offending organism was resistant to this drug. He was successfully treated under guidance of microbiology results.

Patients with endophthalmitis should be observed closely for signs or symptoms of metastatic spread. Although postoperative bacterial endophthalmitis is typically confined to the eye, this case report indicates that the infection can spread to the central nervous system. The treatment of endophthalmitis (including systemic antibiotics) should be guided by microbiology to ensure that the antibiotics administered are effective.

Conflict of interest

The authors declare no conflict of interest.

References

- 1 Lemley CA, Han DP. Endophthalmitis: a review of current evaluation and management. *Retina* 2007; **27**(6): 662–680.
- 2 Chan SM, Hodge WG, Leonard BC. Postoperative Streptococcus pneumoniae endophthalmitis complicated by meningitis. *Arch Ophthalmol* 1998; **116**(7): 951–953.

K Ali, M Owen, I Kumar and S Cazabon

Department of Ophthalmology, Countess of Chester Hospital, Chester, UK E-mail: drkashifali@yahoo.com

Eye (2012) **26**, 1593; doi:10.1038/eye.2012.186; published online 7 September 2012

Sir,

Longitudinal sectioning of temporal artery biopsy specimens

Despite increasing interest in the use of various imaging modalities such as ultrasound, magnetic resonance imaging, and positron-emission tomography, temporal artery biopsy remains the gold standard in the diagnosis of giant cell arteritis (GCA).¹ Given that GCA can lead to profound irreversible blindness and other devastating complications, every effort must be made to ensure a correct diagnosis is made in each and every case.

Case report

We report a case of an 88-year-old patient referred with suspected GCA. A temporal artery biopsy was performed. Macroscopically, the specimen had a segmented, earthworm-like appearance. The 22-mm-long specimen was processed *in toto* and sectioned in the longitudinal plane at six levels, ~120 μ m apart. This demonstrated patchy focal inflammation, predominantly in the outer media, with 'skip areas' of 3–5 mm of uninflamed artery (Figure 1). The inflammatory infiltrate consisted predominantly of mixed mononuclear