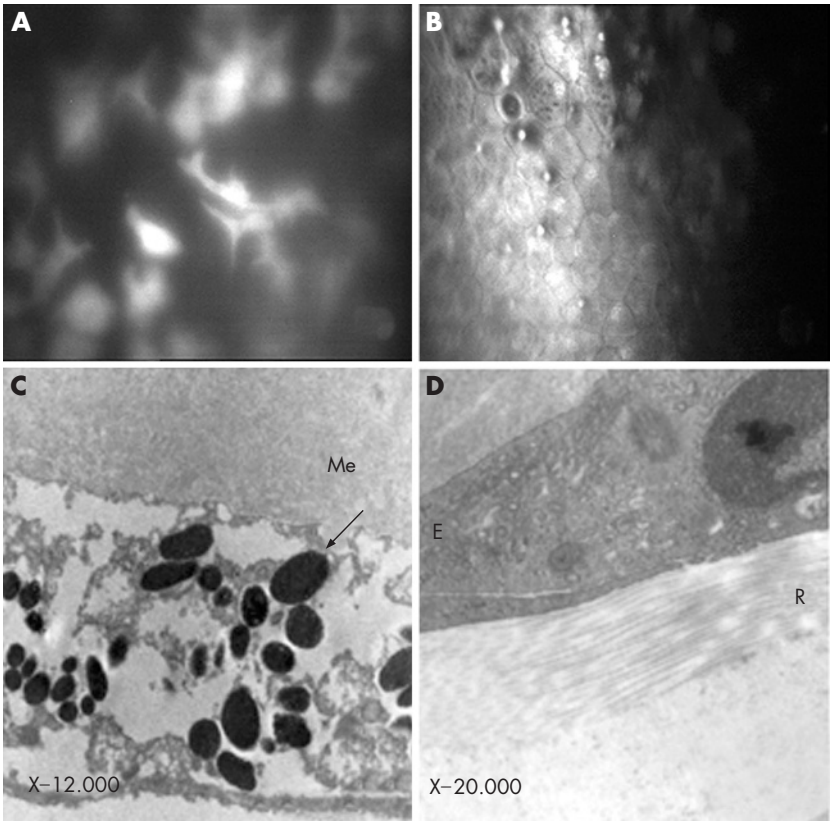

Figure 2 Confocal microscopy showing (A) highly reflective spiculated bodies of the posterior cornea, probably corresponding to the retrocorneal membrane and (B) likely pigment of peripheral corneal guttae. Electron microscopy showing (C) degenerated endothelial cells with vacuolar degeneration and phagocytosis of melanin granules (Me), and (D) an endothelial cell (E) overlying a retrocorneal membrane with collagen fibrils (R).

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Importance of multimedia visual information in improving patient understanding of cataract surgery

Cataract surgery is the most common surgical operation carried out by ophthalmologists. Patients undergoing cataract surgery have been found to have a low level of understanding of the operation, and this is increasingly being linked with increasing patient dissatisfaction.[1]

Pager's recent article[2] showed that a simple inexpensive videotape showing patients what to expect from cataract surgery increases their understanding and satisfaction with the surgery, as well as reduces patient anxiety. We carried out a cross-sectional study to look at whether a multimedia visual computer program improved patients' understanding of cataract surgery as compared to a paper leaflet.

Case report

A total of 42 patients with ophthalmic disorders, with no history of cataract, were allocated to either the computer program or the leaflet group. Understanding of cataract and cataract surgery was assessed by means of a questionnaire relating to what is a cataract and what was involved in the operation.

The results showed that understanding was markedly improved in the computer group as compared with the paper leaflet group. In all, 70% of patients in the computer group had a good understanding of what is a cataract as compared with 59% in the paper leaflet group. Also, 68% of patients in the computer program group had a good understanding of what was involved in the operation as compared with 58% in the paper leaflet group. Mean age in both groups were similar (58.4 *v* 60.2 years).

Comment

Multimedia visual information is an important tool for teaching; this also involves patients. The results signify that information given via a computer program improves understanding of cataracts and cataract surgery. This has similar connotations to the findings by Pager in his recent article, which is an important and timely reminder of the need to improve ways of increasing patient understanding and satisfaction in cataract surgery.

This is only a pilot computer program and still requires modifications, but it is thought that using such a computer-based program would be a vital resource for patients in undergoing cataract surgery. Unfortunately, at present, few ophthalmic units have developed new ways of improving patient understanding of cataract surgery. It is hoped that this would act as a template for such development.

In our study, only patients without a history of cataract were included to limit bias due to previous knowledge of cataract. Our study therefore is a good reliable indicator of the use of computer-based information in improving understanding of cataract and cataract surgery in two similar ophthalmic patient populations. We believe that this is mainly due to the improved visual representation of cataract surgery.

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doi: 10.1136/bjo.2006.102665

Accepted 30 August 2006

Competing interests: None.

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Progressive macular thinning after indirect traumatic optic neuropathy documented by optical coherence tomography

Optical coherence tomography (OCT) is a noninvasive optical imaging technique that provides high-resolution, cross-sectional, in vivo imaging of the human retina from which estimates of retinal layers thickness can be made.[1] OCT is capable of scanning the peripapillary retina, optic nerve head (ONH), and macular region. Previous studies have documented the ability of OCT to image the retinal nerve fibre layer (RNFL) of patients with glaucoma or other optic neuropathies including indirect optic nerve trauma.[2–4]

Although OCT has for the most part been used to evaluate RNFL thickness, recent software improvements have made it possible to measure macular thickness as well. The purpose of this paper is to report a case of indirect optic nerve injury which illustrates the efficacy of macular thickness measurements in documenting progressive neural damage in a longitudinal study using OCT.

Case report

A 25-year-old woman was admitted to the hospital after injuring her right temple in a car accident. Her visual acuity was hand motion in the right eye (OD) and 20/20 in the left eye,

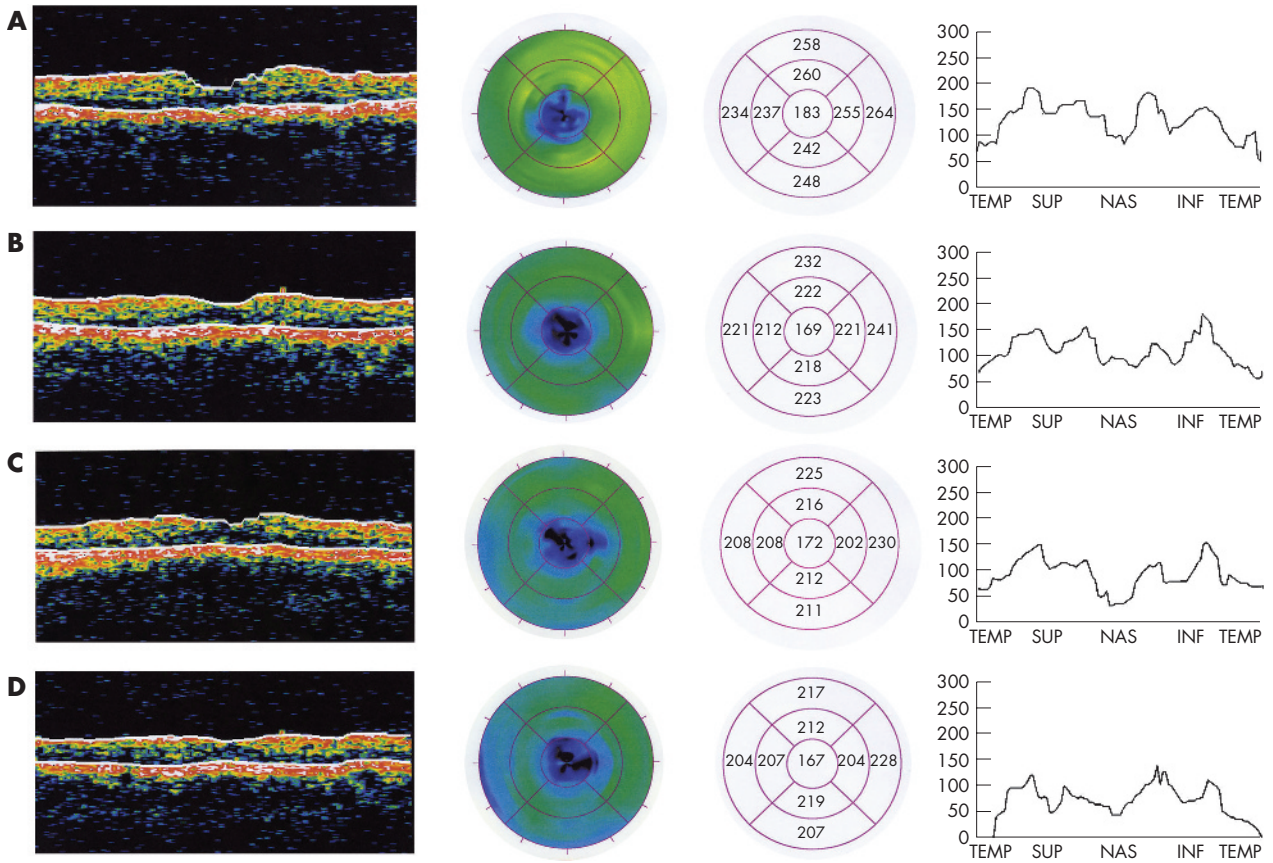

Figure 1 Optical coherence tomography scans on days 7 (A), 28 (B), 49 (C) and 77 (D) after injury. There is progressive thinning of the macular thickness as shown by the (left) color-coded map, by (left circle) the color-coded circle and by (right circle) the mean macular thickness measurements. There is also progressive loss of peripapillary nerve fibers as shown by the (right) retinal nerve fiber layer thickness profile.

with moderate periorbital edema in OD. The slitlamp examination disclosed only a mild subconjunctival hemorrhage in OD. The ocular motility was normal and the intraocular pressure was 12 mm Hg in both eyes. Pupils were equal in size and a 2+ relative afferent defect was observed in OD. The fundus examination was normal in both eyes. A computed tomographic scan of the head and orbits detected multiple fractures at the right optic canal area. Indirect optic nerve trauma was diagnosed and the patient was treated with high-dose intravenous steroids. Visual acuity improved to 20/200 in OD but a dense visual field defect remained and moderate optic disc pallor developed.

Macular thickness measurements based on radial scans passing through the fovea and peripapillary RNFL measurements using optical coherence tomography (OCT, Carl Zeiss Meditec, Inc., Dublin, CA) were taken at 7 days, 28 days, 49 days, and 77 days after injury. A progressive macular thinning could be detected on the macular scan, the color-coded map and the macular thickness map (figs 1A-D). Concomitantly to macular thinning, a marked decrease in peripapillary RNFL thickness measured by OCT was observed in the RNFL thickness profile (fig 1).

Comment

As the ganglion cell layer accounts for up to 40% of the thickness in the macular area, estimates of macular thickness could be considered as a surrogate for the determination of ganglion cell loss. In fact, previous studies have shown that OCT macular thickness measurements are significantly thinner in glaucomatous compared with healthy eyes.[5–8] However, no study has yet evaluated the role of macular thickness measurements in conditions associated with acute ganglion cell loss, such as optic nerve trauma. Previous studies have documented peripapillary RNFL thickness reduction after indirect traumatic optic neuropathy.[4 9] Our case is interesting because it draws attention to the fact that macular thickness measurements may also be a potential indicator of neural damage in the eye and may prove to have clinical value in the detection of damage and monitoring of patients with acute and chronic optic neuropathies.

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doi: 10.1136/bjo.2006.103598

Revised 17 September 2006

Accepted 19 September 2006

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