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Eye (2013) **27**, 571–572; doi:10.1038/eye.2013.2;
published online 22 February 2013

Sir,
Outcomes of horizontal strabismus surgery in newly appointed UK trained strabismologists

It is expected that ophthalmologists who perform strabismus surgery will participate in audit of the outcomes of their surgery to assist revalidation. However, there is not yet widespread agreement amongst strabismus surgeons on a standard format for auditing outcomes.¹ A comprehensive review of the literature shows that very little evidence exists to help reach a consensus. The only prospective multicentre study of the accuracy of surgery for horizontal strabismus showed 92% esotropes and 100% exotropes within ± 10 prism dioptres (PD) of intended surgical goal.² We feel that these results might be non representative of a typical newly appointed strabismologists experience and conducted a retrospective study in our region to further inform the debate.

A multicentre review of horizontal strabismus surgery done between 2005 and 2009 was carried out. Cases were done by one of three strabismologists within 3 years of appointment to a consultant post. All had at least 1 year of sub-speciality training in strabimology in the United Kingdom. The measured outcome was the accuracy of surgical alignment (measured as angle of deviation within 5 PD, within 10 PD or greater than 10 PD of orthophoria). Of the 114 cases, 40 were aged 16 years or older (average age 40 years) and 74 were aged less than 16 (average age 5.6 years). In all, 52% operations were for exodeviations and 48% for esodeviations. Six-week follow-up results are shown in Table 1. Six-month follow-up results are shown in Table 2. The discrepancy between what is available in the literature and our results highlights the difficulty in defining standards in strabismus surgery. Indeed strabismus surgery remains a

Table 1 Six-week follow-up results (near measurements available for 104 patients and distance measurements for 100 patients)

Operative indication	Percentage of patients within 5 PD of orthophoria		Percentage of patients within 10 PD of orthophoria		Percentage of patients more than 10 PD of orthophoria	
	Near	Distance	Near	Distance	Near	Distance
Esotropia	20.8	21.1	47.9	57.6	52	42.3
Exotropia	23.2	31.2	66	58.3	33.9	41.6

Table 2 Six-month follow-up results (near measurements available for 69 patients and distance measurements for 68 patients)

Operative indication	Percentage of patients within 5 PD of orthophoria		Percentage of patients within 10 PD of orthophoria		Percentage of patients more than 10 PD of orthophoria	
	Near	Distance	Near	Distance	Near	Distance
Esotropia	25	34.3	43.7	62.5	56.2	37.5
Exotropia	21.6	19.4	48.6	38.8	51.3	61.1

complex procedure with many different factors affecting outcomes.³ Based on the surgeons personal audits, patients in the region are happy with the service provided. Therefore we suggest that any future debate on revalidation standards should stress the importance not just of surgical goal achievement but also patient (and family) perception of the service provided alongside the outcome.

Conflict of interest

The authors declare no conflict of interest.

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Eye (2013) **27**, 572; doi:10.1038/eye.2013.3;
published online 15 February 2013

Sir,
Arcuate scotoma associated with traction at the optic disc

We report a patient with an arcuate scotoma, attributable to traction of neural tissue at the optic disc.

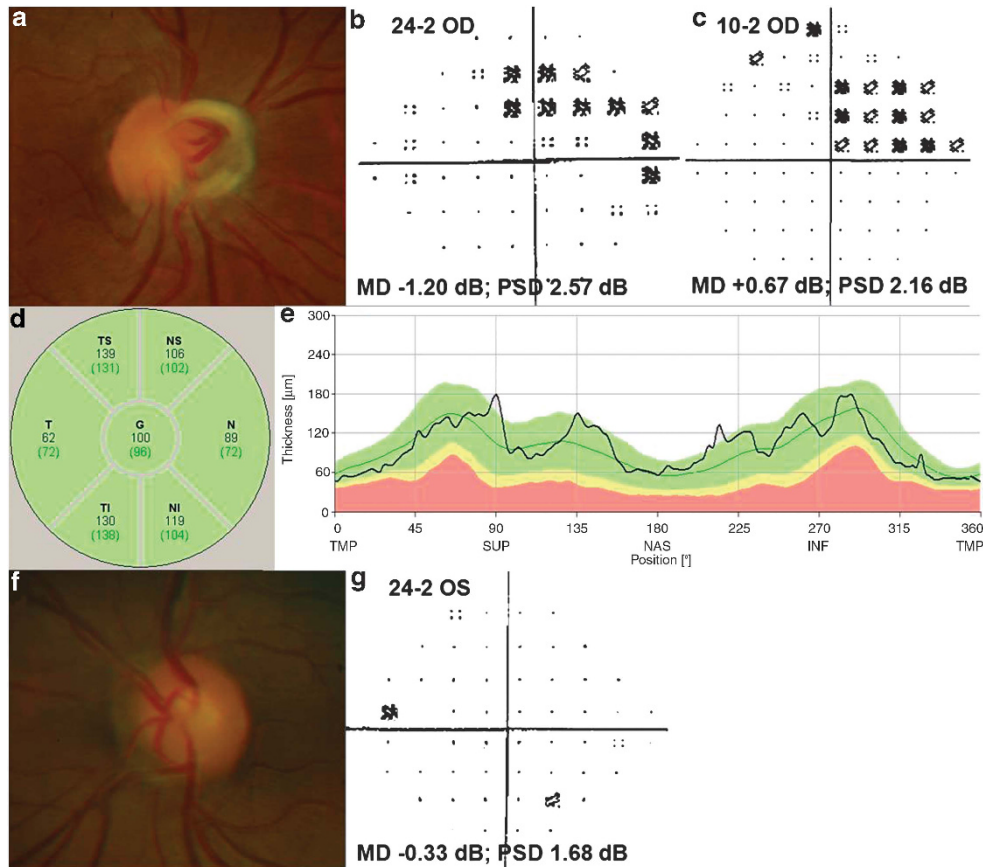


Figure 1 (a–e) Color optic disc photography, Humphrey 24-2 and 10-2 perimetry pattern deviation probability plots, and RNFL thickness map and profile OD, respectively. (f, g) Color optic disc photography and Humphrey 24-2 perimetry OS, respectively.

Case report

A 61-year-old woman was referred for evaluation of a standard automated perimetry (SAP) visual field defect OD. Corrected visual acuities were 20/20 OU, and IOPs were 20 mm Hg OD and 22 mm Hg OS. Slit-lamp biomicroscopy was unremarkable OU. Dilated examination OD revealed thick ring-shaped vitreous condensation at the optic disc with no glaucomatous change (Figure 1). Humphrey 24-2 and 10-2 SAP revealed a superior, incomplete paracentral arcuate scotoma OD (Figure 1). Optic disc, retinal nerve fiber layer (RNFL) and SAP were within normal limits OS (Figure 1). Enhanced depth imaging optical coherence tomography revealed prominent vitreous condensation and meniscus tissue of Kuhnt at the optic disc, which were pulling the superficial part of inferotemporal neuroretinal rim in the nasal direction and altering its normal architecture (Figure 2).

Comment

Cloquet's canal is a remnant of the primary vitreous and firmly inserts around the optic disc at Martegiani's

ring.¹ The thick ring-shaped vitreous condensation at the optic disc in our case appears to be increased gliosis at Martegiani's ring, which has been nasally displaced, along with the meniscus tissue of Kuhnt. As vitreous is firmly attached around the optic disc at Martegiani's ring, its displacement has significantly altered the normal neuroretinal rim architecture (Figure 2).

There are findings that favor traction at the optic disc more than glaucomatous changes, as the cause of the scotoma in our patient. First, no RNFL defect was detected in our case. Second, the inferotemporal rim area that was being dragged by traction spatially corresponded to the superior arcuate scotoma. RNFL bundles arising from peripheral retina lie in the optic disc periphery.² Therefore, our patient's arcuate scotoma, which started from the physiologic blind spot and ended in the middle of the arc is consistent with the fact that the superficial part of the neuroretinal rim was affected. Although speculative, a possible mechanism of functional impairment in our case may include impaired axoplasmic flow and/or electrical transmission of visual signals associated with significantly dragged RNFL axons.

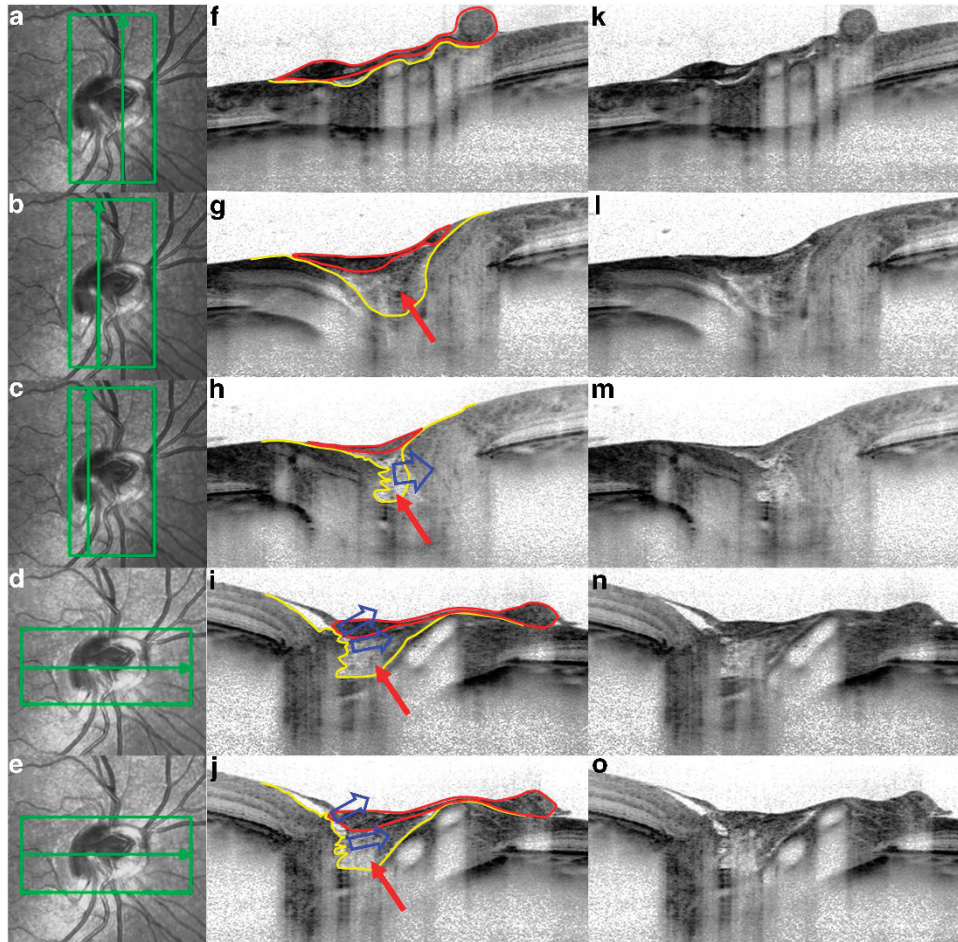


Figure 2 (a–e) Infrared optic disc photography and (f–j) enhanced depth imaging optical coherence tomography images OD. (k–o) The same images as in (f–j) without the labels. (a–e, green arrows) The locations of the cross-sectional optical coherence tomography scans. (f–j, red lines, yellow lines, red arrows and blue arrows) Thick, condensed vitreous at Martegiani’s ring and meniscus tissue of Kuhnt, optic disc surface, fibrous tissue filling the optic disc cup (part of meniscus tissue of Kuhnt), and the direction of traction, respectively.

Conflict of interest

The authors declare no conflict of interest.

Acknowledgements

This work was supported in part by the Sheila Evers Research Fund of the New York Glaucoma Research Institute, New York, NY. JM Liebmann received research support from Heidelberg Engineering GmbH.

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Eye (2013) **27**, 572–574; doi:10.1038/eye.2013.21; published online 1 March 2013