important adverse events reported in this small group of patients.

No important adverse events, including inflammation, were reported in our current series.

The limitations of our study include its small sample size, and retrospective nature. In addition, although our study suggests there is a benefit from combined VEGF and TNF- α inhibition, it is unclear if the same benefit could have been obtained with either agent or only with both. Furthermore, several of the etiologies have a documented natural history to suggest that spontaneous resolution is possible. However, two eyes did not respond to prior treatment with bevacizumab alone and did respond to combined VEGF and TNF- α inhibition. Our results warrant further study.

Conflict of interest

The authors declare no conflict of interest.

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References

- 1 Sfikakis PP, Markomichelakis N, Theodossiadis GP, Grigoropoulos V, Katsilambros N, Theodossiadis PG. Regression of sight-threatening macular edema in type 2 diabetes following treatment with the anti-tumor necrosis factor monoclonal antibody infliximab. *Diabetes Care* 2005; **28**: 445–447.
- 2 Wu L, Hernandez-Bogantes E, Roca JA, Arevalo JF, Barraza K, Lasave AF. Intravitreal tumor necrosis factor inhibitors in the treatment of refractory diabetic macular edema: a pilot study from the Pan-American Collaborative Retina Study Group. *Retina* 2011; **31**: 298–303.
- 3 Androudi S, Tsironi E, Kalogeropoulos C, Theodoridou A, Brazitikos P. Intravitreal adalimumab for refractory uveitis-related macular edema. *Ophthalmology* 2010; **117**: 1612–1616.

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Sir, Adherence to NICE guidelines for new glaucoma referrals

The NICE guidelines for glaucoma¹ gave key priorities for implementation in the management of glaucoma and ocular hypertension. It includes the minimum assessments and investigations. We assessed the adherence to NICE glaucoma guidelines in a university hospital. In addition, we assessed variation of investigations in relation to grade of doctor and final documentation of diagnosis.

The records of 50 consecutive new referrals for glaucoma, from September to December 2009, were reviewed. The records of the 25 patients who were diagnosed with glaucoma (including suspects) or ocular hypertension were further analysed. A pro forma of the NICE guidelines was created, which included age and sex of patient, investigations, documentation of diagnosis, and grade of doctor.

Thirty six percent of patients were seen by a glaucoma specialist. Overall, 48% were diagnosed with glaucoma, 16% were suspects, 16% had ocular hypertension, 4% had pigment dispersion syndrome, and 16% had no clear diagnosis. All patients had intraocular pressure measurement by Goldmann applanation tonometry, 64% had central corneal thickness measurements, and 76% had gonioscopy. One-third of patients diagnosed with glaucoma did not have a CCT measurement documented. Visual fields were performed in 96%, but only 32% were dilated for disc assessment and fundoscopy. The 68% of patients who were not dilated for fundoscopy were seen either by non-glaucoma consultants or trainees. Only 25% of those diagnosed with glaucoma had optic disc imaging with scanning laser polarimetry (GDx VCC).

Adherence to the NICE glaucoma guidelines is varied and depends on whether the patient is seen by a non-glaucoma or a glaucoma specialist. The key priorities highlighted by the guidelines need to be reinforced to improve adherence for a more adequate patient assessment. This sequentially can lead to fewer patients receiving avoidable follow-up appointments.

Goldmann IOP and VFs were well performed and documented. Gonioscopy, optic nerve imaging, pupillary dilation for optic nerve and fundus assessment, and CCT were poorly documented, which therefore requires attention. Although this consists of a small amount of data, it clearly reflects areas of weakness that may be demonstrated in other centres. This letter highlights possible areas for further training.

Conflict of interest

The authors declare no conflict of interest.

Reference

- 1 UK National Institute of Health and Clinical Excellence. Glaucoma: diagnosis and management of chronic open angle glaucoma and ocular hypertension 2009. (available at <http://www.nice.org.uk/CG85>).

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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 strabismology 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.

References

- 1 The Royal College of Ophthalmologists. Preparing for appraisal and revalidation as an ophthalmologist. The Royal College of Ophthalmologists: London, UK, 2012. Available at <http://www.rcophth.ac.uk/page.asp?section=449§ionTitle=Appraisal+%26+Revalidation>.
- 2 Lipton JR, Willshaw HE. Prospective multicentre study of the accuracy of surgery for horizontal strabismus. *Br J Ophthalmol* 1995; **79**(1): 10–11.
- 3 Kushner BJ, Fisher MR, Lucchese NJ, Morton GV. Factors influencing response to strabismus surgery. *Arch Ophthalmol* 1993; **111**(1): 75–79.

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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.