CORRESPONDENCE

Ophthalmic services for children

EDITOR,—It was with interest that I read the report of the joint working party produced by the Royal College of Ophthalmologists and the British Paediatric Association, December 1994.¹ This is an excellent report, clearly presented and easily readable. The report makes many very worthy recommendations, but a degree of public debate will be required to bring these recommendations into being. I would like to highlight a few points:

(1) Do paediatric senior house officers (or obstetric senior house officers, if there are no resident paediatricians) actually receive at least one tutorial near the beginning of their 6 month posts by an ophthalmologist in most hospitals? (Ch 1.5). If not, in the same way that many units provide teaching for casualty officers, should we not do likewise for the paediatricians? This teaching could be provided by a registrar or senior registrar.

(2) With respect to screening for retinopathy of prematurity (Ch 4.1.1), the report states 'a designated ophthalmologist, suitably trained, should provide this service'. In many hospitals no one provides this service, and in some it is delegated to the registrar. The question 'Is this acceptable?' should at least be asked.

(3) Chapter 7, paragraph 4, of the report advises that a multidisciplinary visual disability team should be established in each district to assess children, inform, counsel, and offer practical support to families. I have been completely amazed at how little parents know about available practical support for their chronically handicapped child. (Few have even heard of toy libraries or have got a copy of the BBC's *In touch* handbook.) I would suggest it is our responsibility to inform them and to initiate the establishment of district visual disability teams.

I would be very interested to hear the views of colleagues.

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1 *Ophthalmic services for children*. Report of a joint working party. London: The Royal College of Ophthalmologists and the British Paediatric Association, December 1994.

Proliferation of lens epithelial remnants after Nd-YAG laser capsulotomy

EDITOR,—Jones and colleagues recently described massive proliferation of lens epithelial remnants following Nd-YAG laser capsulotomy in patients with pre-existing retinal pathology.¹ We would like to add to their contribution by describing a similar case but with no associated retinal pathology. Our patient, an 80-year-old woman, had bilateral open angle glaucoma associated with pseudoexfoliation. Owing to uncontrolled intraocular pressures she had undergone bilateral drainage procedures by trabeculectomy. Three years later she had a left extracapsular cataract extraction. Visual acuity improved from 3/60 to 6/9 but 9 months later an Nd-YAG laser capsulotomy was necessary because of progressive posterior capsular

opacification reducing visual acuity to 6/18. Visual acuity initially improved to 6/9 but deteriorated over the following 6 month period to perception of light only, as a result of the proliferation of vascularised lens/capsular remnants anterior and posterior to the intraocular lens. Anterior lens capsular vessels were also present in the crystalline lens in the right eye, which had not been previously noted. The capsular remnants in the left eye were excised by an anterior corticocapsulotomy using a posterior vitrectomy probe and anterior infusion.

Brooks and associates have postulated that anterior segment ischaemia may be found in association with pseudoexfoliation of the lens capsule.² This would help explain the presence of bilateral vascularisation of the capsule in this patient. It may also explain the proliferation of lens capsule remnants anterior to the intraocular lens. Nd-YAG laser capsulotomy seems to promote proliferation of the lens epithelium¹; in the setting of anterior segment ischaemia it may lead to massive proliferation.

This would suggest that lens capsule neovascularisation can occur with pseudoexfoliation in eyes that have undergone anterior segment surgery and patients with both features are also at risk of lens cell proliferation following Nd-YAG laser capsulotomy which may result in a profound decrease in visual acuity.

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- 1 Jones NP, McLeod D, Boulton ME. Massive proliferation of lens epithelial remnants after Nd-YAG laser capsulotomy. *Br J Ophthalmol* 1995; 79: 261-3.
- 2 Brooks AMV, Gillies WE. The development of microneovascular changes in the iris in pseudoexfoliation of the lens capsule. *Ophthalmology* 1987; 94: 1090-7.

Laser photodisruption of visible retinal artery emboli

EDITOR,—We read with interest the report by Dutton and Craig describing treatment of a retinal embolus by photocoagulation.¹ The authors described successful laser disruption of a visible embolus in a 52-year-old woman with branch retinal artery occlusion refractory to standard management. They used a continuous argon blue-green laser set at 0.1 W and 50 μ m spot size. We have attempted similar treatment with an argon green laser in both an animal model of retinal artery occlusion and in a patient with visible emboli, but we have experienced poor outcomes.

We have recently developed a rabbit model of retinal artery occlusion using human atherosclerotic material (Ciulla *et al*, *Curr Eye Res*, in press). Fresh human atherosclerotic plaque was harvested from atherosclerotic human aorta by mechanical removal and suspension in normal saline. The suspension was agitated vigorously to produce small particles, which were separated into various sizes by filtration through mesh filters. The common carotid artery of the anaesthetised rabbit was isolated by neck dissection, cannulated, and injected with suspensions of human atherosclerotic plaque. Ophthalmoscopy and fluorescein angiography confirmed that

plaque particles of less than 105 μ m reliably produced branch retinal artery occlusion, while larger plaque particles of less than 149 μ m reliably produced central retinal artery occlusion. Four rabbits with visible branch retinal artery emboli underwent attempted laser photodisruption with argon green laser in a fashion similar to that described by Dutton and Craig. Multiple spots of argon green laser (4-10 spots at 0.1-0.2 W, 50 μ m spot size, and 0.1 second exposure) were applied to the embolus. The procedure was unsuccessful in three rabbits. In a fourth rabbit, the visible embolus was fragmented by the laser energy, and the fragments passed distally.

The treatment was also attempted in a 69-year-old woman who presented within 1 hour after experiencing acute loss of vision in the left eye. She was noted to have a refractile intra-arterial embolus at the optic disc. Despite ocular massage and anterior chamber paracentesis, visual acuity remained at light perception. Laser photodisruption, using the settings noted above, was attempted. Arterial circulation appeared to improve, but the embolus remained in place. One week later, visual acuity remained at light perception and the retinal vessels were reperfused, with the embolus located distally within the inferotemporal arteriole.

In summary, laser treatment in our hands, does not reliably disrupt visible retinal artery emboli. This procedure was successful in only one of four rabbits with visible retinal emboli consisting of human atherosclerotic material. Similarly, it is unlikely that this laser treatment had any effect in the treated patient since no acute disruption or movement of the embolus was noted. However, since there is currently no effective treatment in retinal artery occlusion and since there was no apparent laser mediated damage to the retinal vessels noted on fluorescein angiography in the affected patient, it is not unreasonable to attempt laser disruption. Treating ophthalmologists should only employ this modality after all standard methods have failed and after the patient has been informed of the limited chance for success.

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1 Dutton G, Craig G. Treatment of central retinal artery occlusion by photocoagulation [Letter]. *Br J Ophthalmol* 1989; 73: 580-1.

Reply

EDITOR,—The rationale for the choice of treatment described in our letter to the *British Journal of Ophthalmology* in 1989 was as follows:

(1) The melting point of cholesterol is such that the cholesterol of synchysis scintillans in the anterior chamber of an aphakic eye disappears when a hairdryer is played upon the closed eyelid.¹

(2) Cholesterol, like xanthophyll, is yellow and thus will absorb blue light with conversion to heat. (We did not anticipate that the green component or the argon laser light would heat the yellow embolus to the same degree and for that reason did not filter out the blue light.)

(3) Warming of the embolus requires a continuous application of energy until