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CORRESPONDENCE

Sir,

Anaesthesia for the laser treatment of neonates with retinopathy of prematurity

We read with interest the editorial response to our article. We wish to address some of the comments and also discuss evidence to support local anaesthesia combined with sedation as a safe and effective alternative in the management of preterm infants requiring treatment.

Our survey demonstrates a shift away from the use of topical anaesthesia alone (0%) compared to 23% in 1993.[1] Practice may have been influenced by Haigh *et al*[2], who found that the incidence of cardio-respiratory complications increased with the use of topical anaesthetic alone. However, they also demonstrated that the combination of sedation and analgesia was comparable, and at certain time points favourable, to general anaesthesia. In addition, in this study, all babies who were treated with cryotherapy, now largely superseded by laser. As Allegaert *et al*[3] discuss in their correspondence to our article, the overall treatment insult is less and the ocular and systemic recovery is quicker, following laser treatment than cryotherapy.

The editorial states that neonates should be electively intubated and ventilated before laser treatment. The trend to treat infants, earlier coupled with advances in neonatology, presents us with an increasing cohort of vulnerable premature infants with severe disease who require treatment at younger ages. In those infants, general anaesthesia is associated with higher systemic complications and it may become difficult to wean off ventilation, particularly, if repeated treatment is required.[4] The logistical issues that surround the organisation of general anaesthetic treatment including intra- or inter-hospital transfer, theatre time, coordination of neonatal anaesthetic support, and surgeon availability make treatment difficult to perform within the recommended 48-h time frame. Safe alternatives to general anaesthesia must therefore be considered.

We have audited the safety and efficacy of sub-Tenon's local anaesthesia combined with sedation using oral chloral hydrate. The mean cardio-respiratory index was 1.13 comparing favourably to the standards published. In all cases, full laser treatment was perfomed.[5]

The 'gold' standard in our unit and many others in the United Kingdom has evolved such that reintubation and ventilation have been rendered obsolete in the laser treatment of retinopathy of prematurity.

References

1 Schulenburg WE, Bloom PA. Current problems in the management of ROP. *Acta Ophthalmol Scand* 1995; **73** (Suppl 2140): S14–S16.

2 Haigh PM, Chiswick ML, O'Donoghue EP. Retinopathy of prematurity: systemic complications associated with different anaesthetic techniques at treatment. *Br J Ophthalmol* 1997; **81**(4): 283–287.

3 Allegaert K, Van de Velde M, Casteels I. Correspondence. *Eye* 2007; **21**: 679–680.

4 Kurth CD, Spitzer AR, Broennle AM, Downes JJ. Postoperative apnea in preterm infants. *Anaesthesiology* 1987; **66**(4): 483–488.

5 Parulekar MV, Chen SD, Patel CK. Sub-Tenon's local anaesthesia for the treatment of retinopathy of prematurity with diode laser. *Eye* 2006; e-pub ahead of print.

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Sir,

Intravitreal bevacizumab for treatment of choroidal neovascularization secondary to angioid streaks

Angioid streaks may be idiopathic or are associated with systemic conditions such as Paget's disease, Pseudoxanthoma elasticum, Ehlers Danlos syndrome, and sickle cell disease. Choroidal neovascularization (CNV) can complicate angioid streaks and lead to severe vision loss.[1] Laser photocoagulation for CNV, secondary to angioid streaks, is associated with a high rate of recurrence. We report a case of successful treatment of CNV in a patient with idiopathic angioid streaks with intravitreal bevacizumab (Avastin^{TM})(1.25 mg).

Case report

A 63-year-old Caucasian man presented to the Barnes Retina Institute with complaints of decreased vision in the right eye. His visual acuity was 20/70 in the right eye and 20/25 in the left eye. Fundus examination showed angioid streaks in both eyes, and subfoveal fibrosis and elevation of the retinal pigment epithelium (RPE) with sub-retinal haem in the right eye consistent with CNV (Figure 1a). Fluorescein angiography (FA) showed staining and window defects corresponding to the angioid streaks and mild subfoveal leakage consistent with occult CNV (Figure 1b). There was no identifiable CNV on FA or OCT OS (data not shown). OCT confirmed presence of sub-retinal fluid (SRF) (Figure 1c). After discussion of the therapeutic options, treatment with intravitreal bevacizumab (1.25 mg) was initiated. Following three injections of bevacizumab six weeks apart, vision improved to 20/30 with complete resolution of SRF on OCT and fundus examination (Figure 2). Vision has remained stable for six months after the initiation of the treatment with no additional intervention.

Comment

Intravitreal bevacizumab has been reportedly efficacious in the treatment of CNV, secondary to AMD and myopia.[2,3] Although, there is one reported case of treatment of CNV, secondary to angioid streaks with intravitreal bevacizumab, we have not been able to find additional cases in the English literature.[4] We believe that this case illustrates the need for a randomized trial in order to evaluate the efficacy of intravitreal bevacizumab or other anti-vascular endothelial growth factor

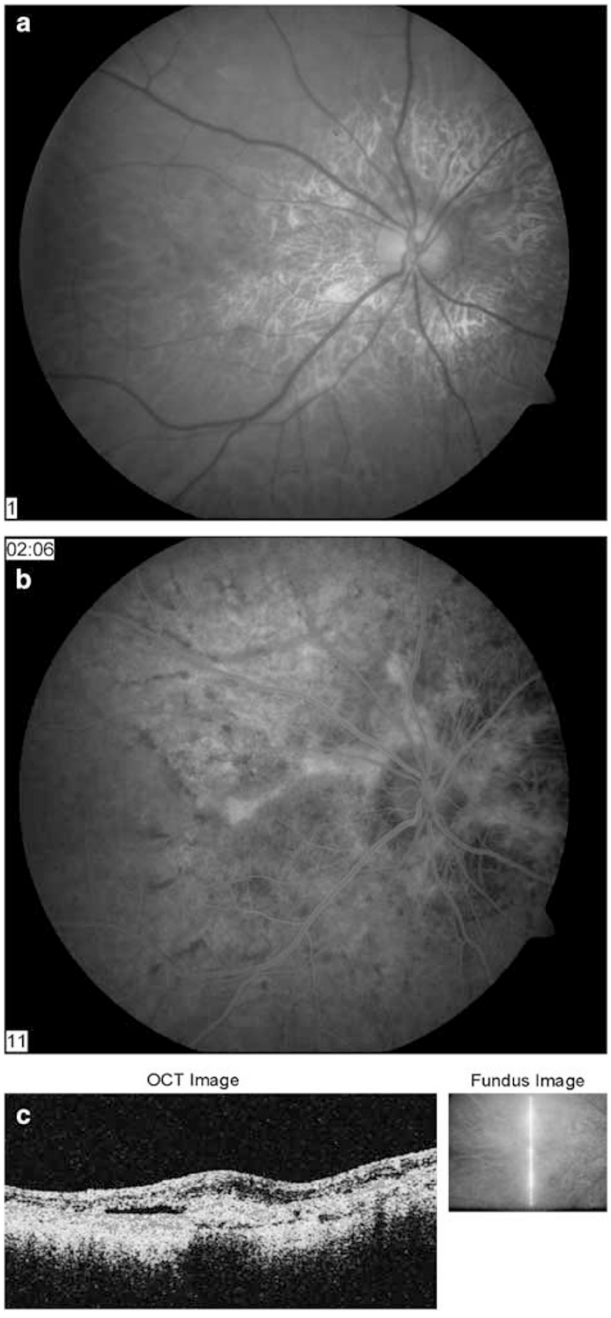

Figure 1 Imaging of the left eye: (a) Colour photograph shows angioid streaks and subfoveal CNV; (b) late FA shows mild late leakage underneath the fovea and angioid streaks; (c) OCT shows evidence of sub-retinal fluid.

agents in the treatment of CNV, secondary to angioid streaks.

References

1 Spaide RF. Choroidal neovascularization in younger patients. *Curr Opin Ophthalmol* 1999; **10**: 177–181.
2 Tewari A, Dhalla MS, Apte RS. Intravitreal bevacizumab for treatment of choroidal neovascularization in pathologic myopia. *Retina* 2006; **26**: 1093–1094.

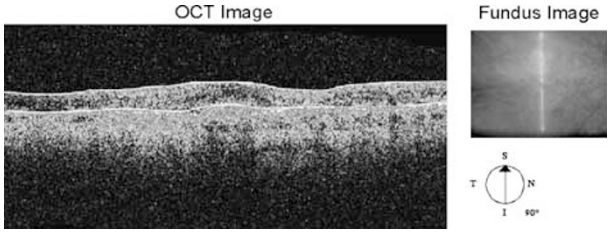

Figure 2 OCT after three injections of bevacizumab shows resolution of sub-retinal fluid.

3 Freeman WR, Falkenstein I. Avastin and new treatments for AMD: where are we? *Retina* 2006; **26**: 853–858.
4 Teixeira A, Moraes N, Farah ME, Bonomo PP. Choroidal neovascularization treated with intravitreal injection of bevacizumab (Avastin) in angioid streaks. *Acta Ophthalmol Scand* 2006; **84**: 835–836.

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Sir,

Bilateral congenital hamartomas of the retinal pigment epithelium in a patient with Down's syndrome

Congenital hamartoma of the retinal pigment epithelium (RPE) was first described by Laqua[1] in 1981, based on the clinical observation in two cases. Since then, not more than 20 unilateral cases of RPE hamartomas have been reported in the literature. We report a rare case of bilateral RPE hamartomas found in a patient with Down's syndrome.

Case report

A 48-year-old man with Down's syndrome came recently to the United Kingdom from abroad and was seen for the first time by an optician. He was found to have bilateral macular pigmented lesions in addition to significant refractive errors. Best-corrected visual acuity was difficult being around 6/24. Fundus examination revealed bilateral, jet black, and full-thickness retinal lesions located at the fovea (Figure 1). The diagnosis of bilateral RPE hamartomas was reported.

Comment

RPE hamartomas are focal, nodular, and jet-black lesions that usually appear to involve the full thickness of the retina and spill onto the inner retinal surface in an umbrella fashion.[2] They occur at the macular area and are not associated with any changes in the surrounding tissues. Three patterns of involvement are described: superficial involvement of the retina, full-thickness retinal involvement with preretinal extension, or full-thickness retinal involvement with preretinal extension