

Scleral perforation involving the papillomacular bundle secondary to peribulbar anaesthetic injection



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1. Case report

A 76-year-old patient developed visual loss from vitreous haemorrhage immediately following left glaucoma gel microstent revision surgery under peribulbar anaesthesia. Once the vitreous haemorrhage cleared, central vision did not recover and fundal examination revealed multiple linear chorioretinal lesions and a juxtapapillary macular hole. Optical coherence tomography confirmed the full thickness macular hole with posterior dragging of the retinal pigment epithelium-Bruch's complex, and additional multifocal discontinuities of the superior retina (Fig. 1). Microperimetry demonstrated complete loss of sensitivity at the fovea, extending nasally, indicative of damage to the papillomacular bundle (Fig. 2). These findings are suggestive of a perforating scleral injury, secondary to peribulbar injection and subsequent injury to the superior inner retina caused by the tip of the 25-gauge needle. An experienced, senior anaesthetist had delivered the injection of lidocaine 2% and bupivacaine 0.75%, via the inferolateral aspect of the orbital rim. The patient was observed for 1 year without further intervention, at which point the visual acuity was counting fingers, from a pre-operative baseline of 6/9.

2. Discussion

The rate of globe perforation following peribulbar anaesthesia is reported to be between 0.6 and 2.2 per 10,000 cases and ordinarily occurs in the presence of posterior staphyloma.¹⁻³ Scleral perforation needs to be considered in any patient who has had a peribulbar block and presents with vitreous haemorrhage of unknown cause at the first postoperative visit. Vitreoretinal intervention is typically required to

prevent or treat subsequent retinal detachment or subretinal haemorrhage, and the potential for long-term visual recovery is limited.³

To our knowledge, this is the first example in the literature of a scleral perforation, secondary to peribulbar injection, involving the papillomacular bundle, causing loss of central vision in an eye of normal axial length (23.85 mm). Although uncommon, the visual consequences of this complication can be profound and, as such, alternative techniques such as subtenon injection should be considered, where practicable.

Consent

The patient consented to publication of the case in writing.

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Authorship

All authors attest that they meet the current ICMJE criteria for authorship.

Declaration of competing interest

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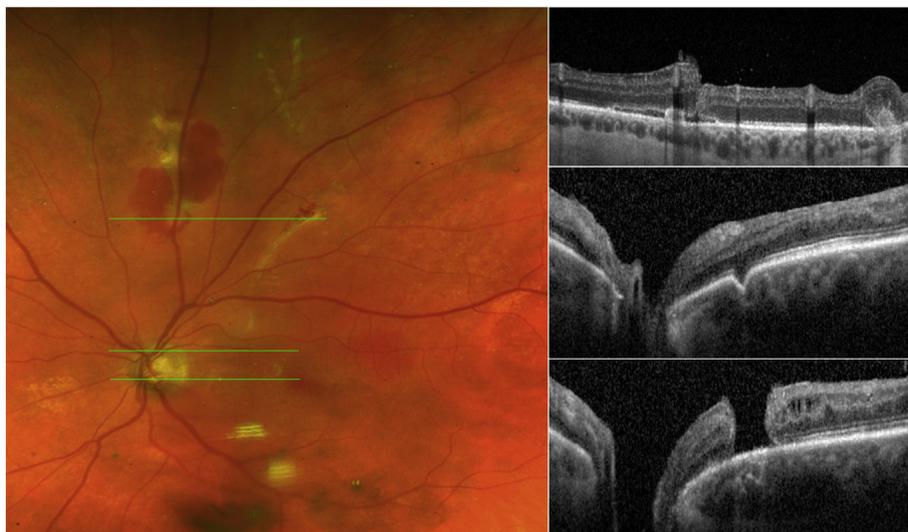


Fig. 1. Optos California widefield scanning laser ophthalmoscopy (Optos, Marlborough, MA, USA), and Spectralis SD-OCT (Heidelberg Engineering, Dossenheim, Germany) demonstrating linear chorioretinal track marks and associated vitreous haemorrhage.

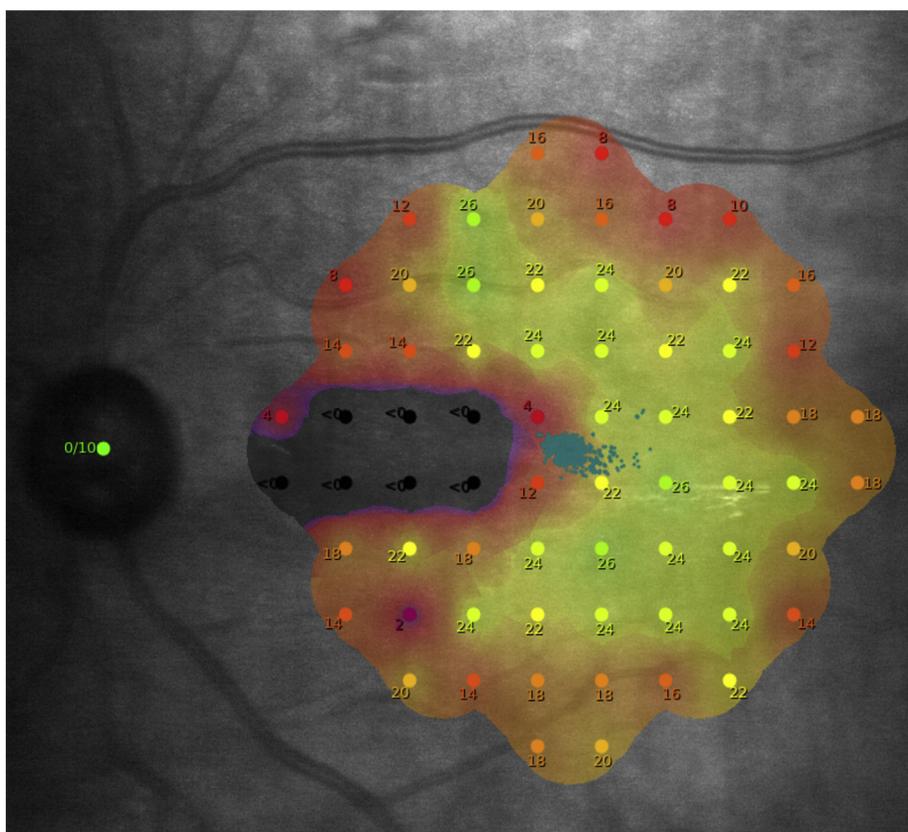


Fig. 2. Microperimetry (MAIA, CentreVue, Padova, Italy) demonstrating sensory loss along the distribution of the papillomacular bundle.

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