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Sir,

Surgical removal of sequential epiretinal and subretinal neovascular membranes in a patient with traumatic choroidal rupture

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Fibrocellular epiretinal membrane formation and subretinal neovascularisation (SRN) are documented sequelae of traumatic choroidal rupture. We herein report a case that illustrates the development of these complications at different time points following injury and the successful surgical management of both pathologies.

Case report

An 18-year-old male sustained a left closed-globe contusion injury in a road traffic accident, and developed vitreous haemorrhage. He was referred for vitreoretinal management 3 months later following initial observation at a local hospital. His visual acuity was 6/12 with marked distortion. Fundoscopy revealed a crescent-shaped choroidal rupture concentric to the optic disc and an epiretinal membrane extending from the rupture (Figure 1). His vision returned to 6/6 after vitrectomy and surgical peeling of this membrane, despite a faint subretinal haemorrhage. Fluorescein angiography confirmed a subretinal neovascular membrane extending from the rupture towards the fovea (Figure 2a). Given his good visual acuity, and previous experience of spontaneous neovascular membrane regression, we elected to observe his progress. After 4 months, his visual acuity was 6/12 and the membrane had extended subfoveally (Figure 2b). Surgical removal of the membrane was planned, prior to which his visual acuity had deteriorated to 6/24 with clinical evidence of membrane extension and increased subretinal haemorrhage. Following surgical removal via a small retinotomy nasal to the choroidal rupture, his vision improved and was stable at 6/9 (with no significant distortion) 3 months after surgery, without membrane recurrence. Histological examination of the subretinal neovascular membrane demonstrated RPE cells on one surface and within a fibrovascular core, and no evidence of photoreceptors or Bruchs membrane components.

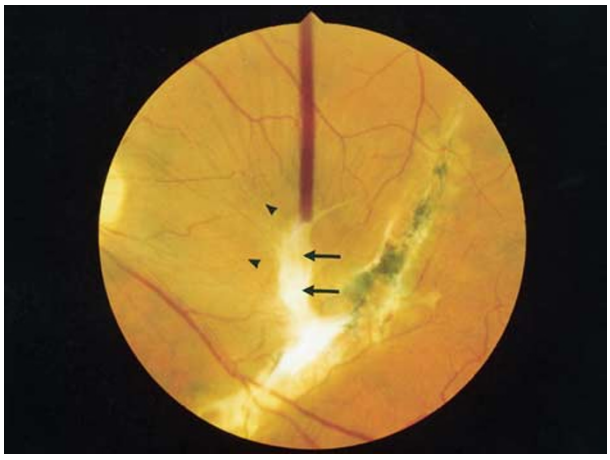

Figure 1 Left eye fundus demonstrating choroidal rupture extending to the macula, with epiretinal membrane formation (arrow) and a striated appearance of adjacent neuroretina secondary to traction (arrowheads).

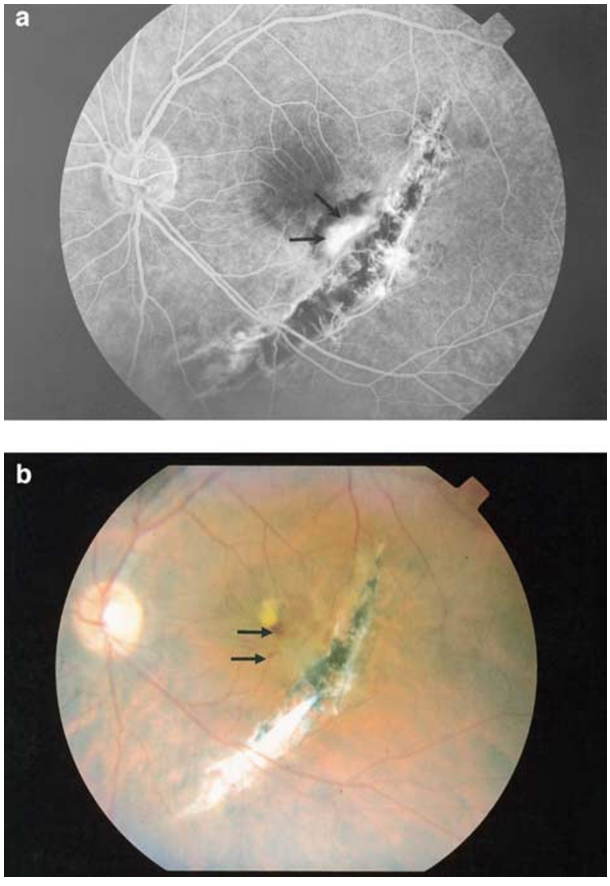

Figure 2 (a) Fluorescein angiogram confirming the presence of a neovascular membrane nasal to the choroidal slar (arrows). (b) Left eye 7 months after injury: the neovascular membrane has extended subfoveally, note subfoveal haemorrhage (arrows) and lipid deposit.

Comment

This patient demonstrates two complications of blunt ocular trauma:[1] epiretinal membrane formation and SRN.[1,2] The sequential development of these complications has not previously been reported in the same patient. The case supports previous reports of successful management of subretinal neovascular membranes secondary to blunt ocular trauma by surgical removal.[3,4] The clinical behaviour and pathological appearance of the subretinal neovascular membrane in this case suggests that it was a 'type 2' membrane[5] (ie neovascularisation below neurosensory retina but internal to viable RPE), increasing the likelihood of a good visual outcome from subretinal surgery. Gass has previously noted that choroidal neovascularisation arising at the site of an old choroidal rupture is usually type 2.[6]

Glial proliferation has a central role in epiretinal membrane formation—retinal glial cells can extend through defects in the inner limiting membrane (ILM), and may also be capable of producing ILM breaks through which they can extend processes onto the ILM surface.[7] In the case we have described, the epiretinal membrane appeared to extend from the choroidal rupture towards the fovea. It is likely that inner retinal disruption and microscopic breaks in the ILM at the time of traumatic choroidal rupture provided the basis for subsequent glial extension and epiretinal membrane formation. In addition, the fibroglial scar at the site of the choroidal rupture provides an anchor for the epiretinal membrane, any subsequent membrane contraction enhancing the clinical appearance of the membrane extending from the rupture.

Management of epiretinal membranes invariably involves vitrectomy surgery; however, other treatment options are now available for SRN. Photodynamic therapy (PDT) may limit progression (although not widely available at the time of presentation of this case) in some age-related macular degeneration SRN; however, the value of PDT in post-trauma SRN is unproven. Likewise, trans-pupillary thermotherapy may offer a benefit in SRN treatment, but its efficacy requires further investigation. It is uncertain whether any of the alternative novel treatment options for SRN could result in a visual improvement from 6/24 to 6/9, which was achieved by surgical management of the SRN in this case.

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Sir,

Return of the cosmopolitan worm
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We present a rare case of recurrent subconjunctival infection with the dog heart-worm Dirofilaria. This parasite is transmitted via mosquito bites[1,2] and is well known to the veterinary profession as a parasite of cats and dogs.[1,3] Humans are an accidental host. This zoonotic infection is increasing in incidence in Italy and France.[4]

Case report

A 25-year-old lady from West Africa came into the eye casualty complaining of an intermittent feeling of 'something moving under her eyelid'. She had a past ocular history of a parasitic conjunctival infection with the dog heart-worm Dirofilaria. She had travelled to West Africa and France in the past year.

On examination a mobile mass was visible under the conjunctiva. She was immediately taken to theatre and given topical and subconjunctival anaesthesia. An incision was made into the inferior conjunctiva where a live worm was visible in the subconjunctival space