PostScript

LETTERS

Blast injury-associated optic disc pit maculopathy

Congenital pits of the optic nerve head are anomalies of embryogenesis due to neuroectodermal fold remnants or aplasia of Bergmeister's papilla.¹ The defect allows the vitreous to pass spontaneously into the subretinal and inner nuclear layers of the retina, resulting in serous retinal detachment with macular cyst formation.² Alternatively, a direct communication between the optic pit and subarachnoid space may exist, leading to cerebrospinal fluid (CSF) accumulation in the subretinal space as well as passage of intraocular contents into the CSF.³ A recent case report noted a symptomatic optic pit 3 months after a blunt ocular injury,⁴ and another case report noted an association between optic pit maculopathy and subsequent traumatic macular hole after minor trauma.⁵ We report optic pit maculopathy immediately after closed head injury during a military engagement.

Case report

A 32-year-old man, previously healthy, was injured during combat operations in Iraq. After a large blast, the soldier lost consciousness and was thrown several feet. He sustained no external injuries, but noted loss of vision in his left eye. Assessment immediately after the injury showed no evidence of ocular trauma and a visual acuity of 20/150 in the left eye, with ophthalmoscopy disclosing serous macular detachment of the left eye with a temporal optic pit (fig 1). There was no evidence of contusion maculopathy or traumatic macular hole formation.

On arrival in the USA, visual acuity remained 20/150 and optical coherence tomography showed subretinal and intraretinal cystic hyper-reflectivity consistent with neurosensory detachment and macular schisis (fig 2). Brain magnetic resonance imaging was normal. Visual acuity varied between 20/80 and 20/400 over the ensuing 2 months. However, 81 days after injury, the patient's neurosensory detachment resolved (fig 3A), with evidence of posterior vitreous detachment by optical

Figure 1 Fundus photograph taken after the blast. Neurosensory detachment (solid arrows) is associated with an optic pit (hollow arrow).

Figure 2 Ocular coherence tomography after the blast showing subretinal fluid with intraretinal cysts.

coherence tomography (fig 3B). Visual acuity has stabilised at 20/100.

Comment

Two facts support the temporal relationship between injury and vision loss. Firstly, an eye examination performed 2 months before the injury documented 20/20 vision and normal-appearing macula. Secondly, the soldier's occupation requires intact central and peripheral vision and stereopsis. Admittedly, his non-dominant eye was affected, but numerous military-specific tasks require monocular use of the non-dominant eye. The soldier reported no visual deficits in either eye.

Few authors have noted an association between ocular trauma and the "opening" of an optic pit resulting in serous macular detachment. A review of injuries from the current conflict and past wars fails to note any association of optic pit maculopathy with war-related trauma. However, the blast endured by this soldier produced enough energy to cause him to be thrown into the air and sustain closed head injury. Although speculative, we believe that this extrinsic energy caused anterior-posterior vitreous traction, allowing an

egress of vitreous fluid into the subretinal and intraretinal space. However, an alternative hypothesis may be that the patient's closed head trauma causing the transmission of CSF into the subretinal space.

Marcus H Colyer, Eric D Weichel, Thomas P Ward

Ophthalmology Service, Department of Surgery, Walter Reed Army Medical Center, Washington, DC, USA

Correspondence to: Dr M H Colyer, Ophthalmology Clinic-1F, Walter Reed Army Medical Center, Washington, DC 20307, USA; marcus.colyer@amedd.army.mil

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Histopathological findings after retinal endovascular lysis in central retinal vein occlusion

Although visual results after use of the new surgical method of retinal endovascular lysis (REVL) seem encouraging,^{1,2} its effectiveness has not been proved in a controlled, prospective clinical trial. From a histological postmortem study of eyes with central retinal vein occlusion (CRVO), it is still questionable whether an older thrombus can be dissolved using recombinant tissue plasminogen activator (rt-PA).³ We report on the histopathological findings in a human eye 9 months after REVL.

Case report

We report the case of a 62-year-old woman having a 7-week-old, highly ischaemic CRVO in her left eye with hand movement vision. Although we were concerned about treating an older thrombus with rt-PA, we were interested in seeing whether thrombolysis has the potential to prevent neovascular glaucoma, for example, by minimising capillary nonperfusion. We attempted an REVL to improve retinal blood flow. The procedure was approved by our local ethics committee.

Figure 3 Clinical photograph (A) and ocular coherence tomography image (B) 81 days after the blast injury, showing resolution of subretinal fluid with interval development of posterior vitreous detachment (arrows).