(Fig. 1b) but exact localisation of the foreign body in relation to adjacent ocular structures was not possible. UBM more clearly identified a foreign body lying on the posterior iris surface, close to the iris root and not involving the ciliary body. This showed up as a dense echo from the iris and the posterior iris surface (Fig. 1c).

Right phacoemulsification of the cataract with intraocular lens implant was performed followed by a peripheral iridectomy with removal of the foreign body within the resected iris. A 10.0 prolene suture was used to close the iridectomy medially so that a smaller peripheral iridectomy was achieved. The post-operative course was uneventful and the patient regained 6/6 vision 3 days after surgey.

Comment

Careful planning is vital in the surgical management of an intraocular foreign body (IOFB). Of crucial importance is the precise location of the foreign body itself. In this patient, the tell-tale signs of a penetrating injury were subtle but definite: the corneal and corresponding iris scars as well as the localised traumatic cataract. This sort of subtle ocular damage is classically seen in hammering injuries and an IOFB must be actively sought to avoid further blinding complications such as siderosis.[1,2] As the IOFB could not be visualised, localisation depended on imaging techniques. Orbital radiographs may be useful in detecting IOFBs but some foreign bodies, including metallic splinters, have been missed by plain radiographs.[3] Orbital CT scans are good in detecting foreign bodies but may not provide precise localisation, as in this case. That leaves ultrasonography to provide better images. B-scan ultrasonography is more useful for localisation of posterior segment IOFBs whereas UBM gives much better resolution and enables precise pre-operative localisation of anteriorly situated IOFBs.[4,5] This, in turn, enables the surgeon to plan ahead and perform the operation with minimal exploration and trauma: for example, if the foreign body had been localised to the lens or ciliary body, the appropriate surgical procedure would have been careful lensectomy/phacoemusification and iridocyclectomy respectively. UBM can thus play an important role in the management of anterior segment IOFBs.

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Audrey L.G. Looi
Gus Gazzard
Donald T.H. Tan
Singapore National Eye Centre
Singapore

Audrey L.G. Looi ✉
Singapore National Eye Centre
11 Third Hospital Avenue
Singapore 168751

Sir,

Haemorrhagic conjunctivitis as an initial manifestation of systemic meningococcal disease

Systemic meningococcal disease is commonly seen in the paediatric age group and the main portal of entry is the nasopharynx. However, an increasing number of cases have been reported in which the conjunctiva has been an important site of entry for meningococcus. We report a case of meningococcal septicaemia following haemorrhagic conjunctivitis.

Case report

A previously healthy 14-year-old boy was referred to eye casualty with a presumed diagnosis of left orbital cellulitis. He had presented the previous day to the local casualty department with an injected sore left eye, with associated discharge, and was treated there with topical chloramphenicol by the nurse practitioner. That night he developed general lethargy and a fever, and was referred to the eye department the following day with a presumed diagnosis of left orbital cellulitis.

In the eye casualty, ocular examination revealed a visual acuity of 6/5 in the right eye and 6/18 in the left eye. Anterior segment examination revealed oedematous left upper and lower lids and an injected left conjunctiva with copious green mucopurulent discharge. There was a large superior subconjunctival haemorrhage and punctate epithelial erosions on the left cornea. Systemically he was clearly unwell and had a body temperature of 39.4 °C. He had a non-blanching maculopapular rash on his chest and back, which his mother reported had only come on in the last few hours. He had no meningeal sign on presentation. He was

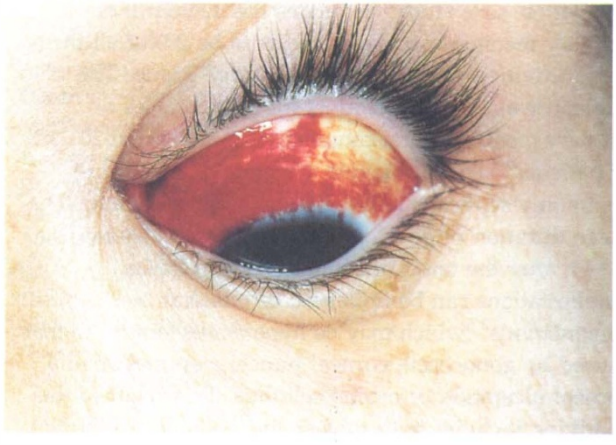

Fig. 1. *Photograph of the left eye with subconjunctival haemorrhage superiorly and purulent conjunctivitis.*

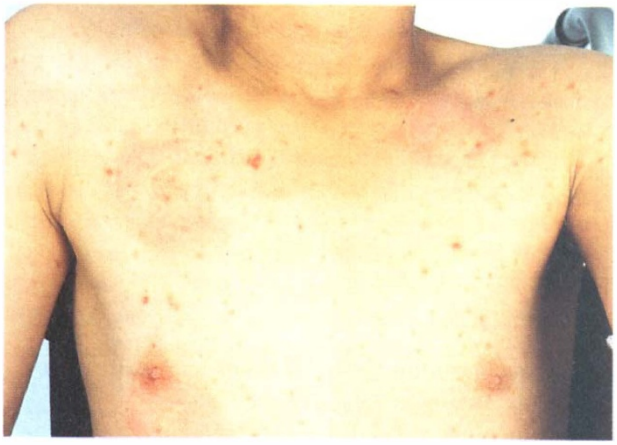

Fig. 2. *Typical non-blanching maculopapular rash of meningoccal septicaemia on the chest (the three circular spots are marks where the stickers for ECG monitoring leads have been removed).*

admitted under the paediatricians with a clinical diagnosis of meningococcal septicaemia and, after obtaining specimens for culture from the eye, throat and blood, antibiotic therapy was started with intravenous cefuroxime, oral rifampicin and chloramphenicol eye drops. He had a white cell count of 18.8×10^9/l (normal range 4–11) the differential count showing predominant neutrophilia (neutrophil count 16.7×10^9/l, normal range 1.8–7.7).

Symptomatic improvement was noted 24 h after starting the antibiotic therapy and the white cell count decreased to 13.7. He continued to show steady improvement and was afebrile 4 days after admission.

The throat and conjunctival swab cultures did not show any growth. However, the blood cultures confirmed the clinical diagnosis with growth of *Nisseria meningitidis* identified as group C type 2a subtype P1-5. The case was reported to the health authorities and prophylactic treatment was given to contacts. He was discharged on the sixth day after admission with a completely resolved conjunctivitis and only a small residual subconjunctival haemorrhage.

Comment

The conjunctiva has now been recognised as a significant portal of entry for meningococci into the systemic circulation. One study[1] estimates the incidence of primary meningococcal meningitis to be 2% of all the conjunctivitis seen in the paediatric age group. The paediatric age group accounts for 83% of cases of primary meningococcal conjunctivitis[2] and about 10–18% of patients[2–4] end up having systemic disease, most commonly septicaemia but also meningitis or both. The mean duration of development of systemic disease is 3–64 h after the onset of conjunctivitis.[4] Ocular manifestations can be unilateral or bilateral conjunctivitis[2] (which may be hyperacute, similar to that caused by gonococci), corneal punctate epitheliopathy, corneal ulceration or orbital cellulitis. Treatment of this condition includes both topical and systemic antibiotics (if the Gram stain shows Gram-negative diplococci or if systemic manifestations of meningococcal disease occur),[1–5] as topical treatment alone does not eliminate pharyngeal carriage. The risk of systemic disease following topical treatment alone has been estimated as being 19 times greater than if combined with systemic therapy.[1] However, risk factors for the conversion of meningococcal conjunctivitis to systemic meningococcal disease have not been identified. Contact screening and treatment is also important as it is estimated that contacts of meningococcal disease have an 800 times higher risk of developing systemic meningococcal disease compared with the normal population.

We recommend that in any child presenting with haemorrhagic purulent conjunctivitis, meningococcal disease be considered as a differential diagnosis. Immediate Gram staining of the conjunctival discharge should be done and samples sent for culture and sensitivity. If the Gram stain shows Gram-negative diplococci, both systemic and topical therapy should be instituted without delay.

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Deepak Tejwani
Hirut Von Lany
Anne Reck
T. Pathmanathan
Royal Eye Infirmary
Dorset County Hospital
Dorchester
Dorset DT1 2JY, UK

Mr Deepak Tejwani, MBBS, MRCOphth, FRCS ✉
Royal Eye Infirmary
Dorset County Hospital
Dorchester DT1 2JY, UK

Tel: +44 (0)1305 251150, bleep 384
e-mail: deeptej@yahoo.com

Sir,

Pericardial patch melting following glaucoma implant insertion

Glaucoma tube implant devices are commonly used in patients with severe complicated glaucoma which is not amenable to traditional fistulisation techniques. Tube implants consist of a silicone tube, inserted into the anterior chamber or vitreous cavity, which is connected to a reservoir plate secured to the sclera. Insertion of the tube implant is usually associated with placement of a layer of tissue over the tube as it leaves the eye to insert into the seton plate. This reduces the risk of tube erosion through the overlying conjunctiva and the associated risk