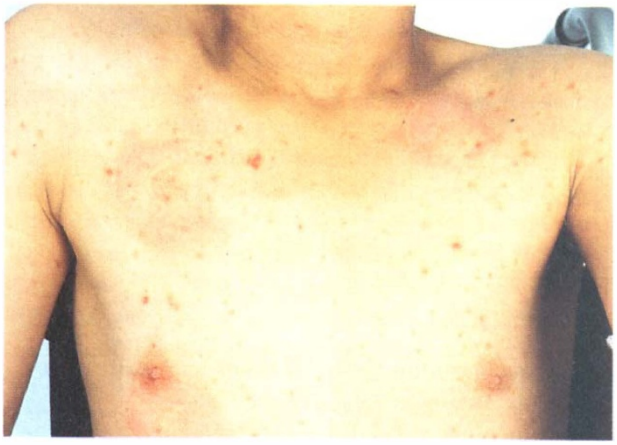

Fig. 2. *Typical non-blanching maculopapular rash of meningoccal septicaemia on the chest (the three circular spots are marks where the stickers for ECG monitoring leads have been removed).*

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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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

of late intraocular infection.[1] Several different tissue types including sclera, fascia lata, dura mater and more recently pericardium have been used to provide this tissue cover. Pericardium has been advocated as a suitable tissue as it is processed prior to use. This processing results in enhanced immunological safety due to removal of all cells and loss of antigenic stimuli; in addition solvent sterilisation and irradiation reduce the risk of viral transmission.[2,3]

Favourable results of pericardium use have been reported;[2] however, recently evidence has been presented that pericardial tissue may melt, resulting in conjunctival erosion and endophthalmitis.[4] We present a further case demonstrating melting of pericardial tissue following seton surgery.

Case report

A 56-year-old Caucasian woman underwent uncomplicated implantation of an Ahmed valve (New World Medical, Racho Cucamonga, CA) in the superior temporal quadrant of her right eye through a fornix-based conjunctival incision. A patch graft of bovine pericardium of approximately 4 × 5 mm was used to cover the anterior part of the tube and sutured to the episclera with interrupted 10-0 nylon sutures. She had been diagnosed with Chandler's syndrome 7 years earlier which remained uncontrolled despite four previous trabeculectomies. Intraocular pressure was not controlled following insertion of the tube and 6 months later a second tube with 0.4% mitomycin augmentation was inserted into the superior nasal quadrant. Her intraocular pressure remained uncontrolled and 3 months later she had an inferior 180° cyclocryotherapy performed. Nine months following the original tube insertion she presented with a foreign body sensation. Examination revealed that the pericardial graft had dissolved allowing the tube to erode through the conjunctiva (Fig. 1). This tube was subsequently removed and the epithelial defect repaired.

Comment

Pericardial patch grafts provide a useful alternative to sclera and advantages include non-reliance on eye bank material and a processing regime that reduces the risk of infection transmission and reduces immunological load. One previous study of 44 eyes found no evidence of conjunctival erosion following implant surgery with a mean follow-up of 10.2 months. It did, however, note thinning of 5 grafts during this period and stated that no discernible remaining graft material could be seen in 3 of these cases.[2] Lama *et al.*[4] have shown melting of pericardial patch grafts associated with conjunctival erosion in 2 cases at 5 and 7 months following implantation, one of which was associated with endophthalmitis. In the case presented here melting and conjunctival erosion ocurred 9 months following tube insertion. In our opinion, it is very unlikely that the mitomycin C used in the second implant could have had an effect on the first patch graft because of the localised application of the antifibrotic agent in a different quadrant.

Pericardium is undoubtedly a useful material in providing cover of drainage tubes beneath the conjunctiva; however, it is a relatively new material and the long-term follow-up results are unknown. Thinning and the potential conjunctival erosion reported are potentially serious side-effects of its use, and require long-term post-operative vigilance to ensure that they are identified and treated before a potentially sight-threatening consequence results. Until the long-term results of pericardial patch grafting are known it may be wise to confine its use to situations in which donor sclera is not readily available, and await further reports of long-term follow-up for these grafts.

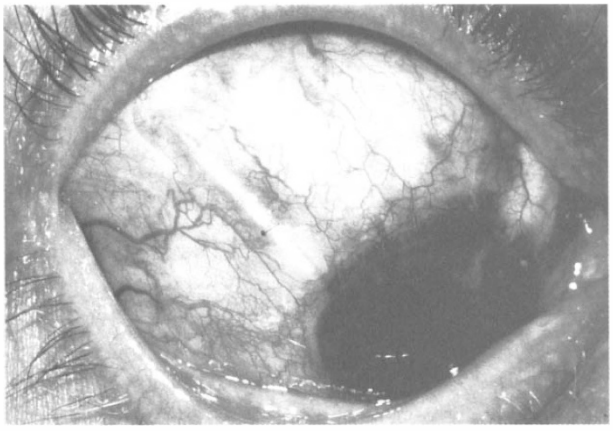

Fig. 1. *Right eye showing exposed seton tube in the superior temporal quadrant. Erosion through the conjunctiva has occurred and there is no pericardial patch material remaining.*

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