In both ours and the above-mentioned case, ocular penetration occurred despite the use of a Luer lock. Crossthreading of the cannula prevented it from locking into place and the force used to push fluid through the cannula caused it to 'shoot' into the eye. Following this adverse clinical event, our unit has adopted a protocol where cannulas on Luer lock syringes are checked and locked before use, by both scrub nurse and surgeon. No similar incidents have occurred in over 5000 subsequent cataract procedures.

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Sir,

Retinal detachment following meningococcal endophthalmitis

Metastatic meningococcal endophthalmitis is a rare and potentially blinding infection. We report an unusual case of metastatic endophthalmitis secondary to meningococcaemia, with isolated positive vitreal cultures, and complicated by retinal detachment. This case highlights the occasional atypical presentation of meningococcaemia, and an associated rare but serious complication.

Case report

A pyrexial 29-year-old woman, who was previously fit and well presented with a 1-day history of left visual loss and pain. Her symptoms were preceded by a 5-day history of fever, vomiting, myalgia, and a maculo-petechial rash on her lower extremities.

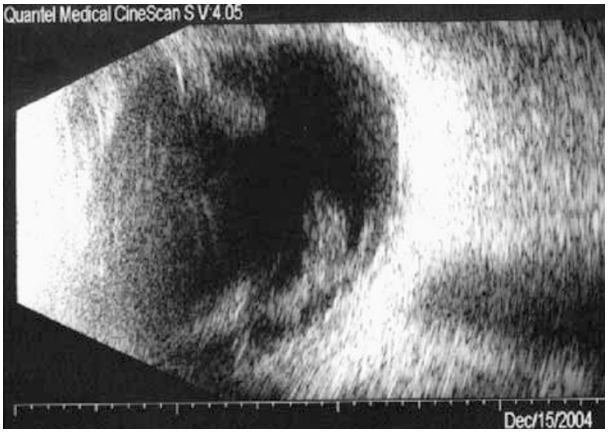

Figure 1 B-scan ultrasonography at presentation demonstrating dense vitreal opacification and inflammation, and retinochoroidal thickening.

One month previously she had developed gastroenteritis and anorexia. The patient denied any trauma, recent sexual contacts, or intravenous drug abuse.
No antibiotics had been taken before presentation.

On examination, the visual acuity was light perception in the left eye and 6/5 in the right. She was known to be emmetropic. She had conjunctival injection, corneal oedema, and a fibrinous anterior chamber reaction with a 1 mm hypopyon. A relative afferent pupillary defect was present and the fundus could not be visualized. The intraocular pressures and right eye were normal. A neurological examination was normal.

B-scan ultrasonography revealed evidence of marked vitreal opacification (Figure 1). Anterior chamber and vitreous samples were taken, with vancomycin, ceftazidime, and dexamethasone administered intravitreally.

She was commenced on intravenous cefuroxime 2 g twice daily with half hourly Pred Forte (prednisolone) and three times daily atropine 1% to the left eye. Investigations revealed elevated inflammatory markers. A biopsy of the rash confirmed it was vasculitic in nature.

Vitreal samples grew *Neisseria meningitidis* sensitive to cefuroxime and penicillin. Two sets of blood cultures, urine samples, throat swabs, and a spinal tap were all sterile. A further intravitreal dose of cefuroxime was administered on day 2, and intravenous cefuroxime was continued for a further 5 days. Her general condition improved and she became apyrexial within 24 h.

B-scan ultrasonography on day 6 revealed a flat retina. The patient was discharged the following day on oral levofloxacin and topical treatment.

A routine B scan on day 15 revealed an inferior rhegmatogenous retinal detachment (Figure 2). The patient underwent a vitrectomy, lensectomy, inferior

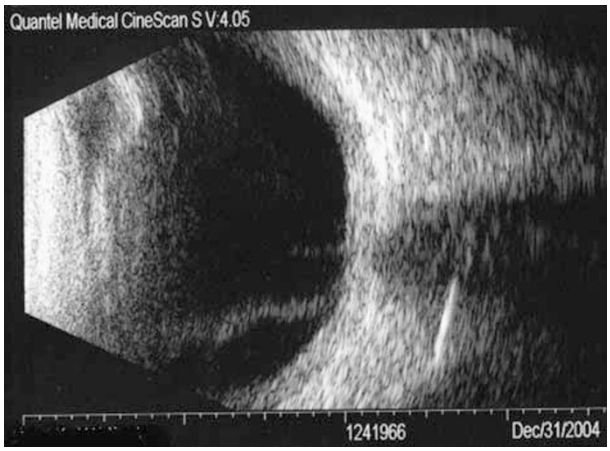

Figure 2 At day 15 showing an inferior rhegmatogenous retinal detachment.

retinectomy, endolaser, and silicone oil injection. Intraoperatively, large atrophic inferior retinal breaks were noted in necrotic retina with extensive overlying vitritis. Posterior vitreous detachment was already present however adequate retinopexy could not be created without resorting to an inferior retinectomy.

The retina remains reattached under silicone oil tamponade at 6 months. Her current vision is counting fingers with a dense relative afferent pupillary defect. She has persistent hypotony and is developing band keratopathy.

Comment

Endogenous meningococcal endophthalmitis is a rare but serious sight threatening infection. Approximately two-thirds of patients experience functional visual loss in the affected eye.[1] In the pre-antibiotic era, endogenous endophthalmitis complicated 5% of all cases of meningococcal meningitis.[2] Between 1985 and 2001, 267 cases of endogenous bacterial endophthalmitis (EBE) were reported worldwide, 15 of which were caused by *N. meningitidis*.[3] A Medline search since then has yielded a further eight cases attributable to *N. meningitidis*. Presently *Klebsiella* is the leading causative agent of EBE with the number secondary to *N. meningitidis* and *Bacillus cereus* falling.[3,4]

Retinal detachment complicates 2% of EBE cases. Jain and Lam[5] in 2002 presented a 14-year-old girl with meningoencephalitis who developed *N. meningitidis* positive endophthalmitis, which was subsequently complicated by retinal detachment. Despite multiple surgical interventions the final visual acuity was hand movements in the affected eye.

Our patient was intriguing because she had clearly demonstrable systemic signs of meningococcaemia with metastatic seeding to her left eye, yet vitreal samples were the only positive microbiological study. Polymerase chain reaction (PCR) of whole blood was not undertaken as the diagnosis was already clear. However if the diagnosis is in doubt, we suggest PCR of whole-blood meningococcal DNA should be considered. Her case was complicated by inferior retinal detachment 2 weeks following presentation secondary to inferior breaks with vitreous traction.

This case highlights the importance of treating meningococcal endophthalmitis as a systemic illness rather than a separate ocular entity and confirms the high visual morbidity despite immediate and aggressive therapy.

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