LETTERS TO THE EDITOR

Subretinal *Pseudomonas* abscess after lung transplantation

EDITOR,—Subretinal abscess is an uncommon clinical entity. We report such a case in a lung transplant patient in whom the causative organism was identified only after surgical drainage.

CASE REPORT

A 23-year-old white male underwent bilateral sequential lung transplantation for cystic fibrosis. One month later he presented with a 6 day history of visual loss of the right eye following a 24 hour pyrexia. Visual acuity was hand movements in the right eye and 6/6 in the left. There was a right relative afferent pupillary defect associated with a mild anterior uveitis and slight vitreous haze. Funduscopy revealed a large creamy white mass beneath the superotemporal retina (Fig 1). The left eye was normal.

An earlier postoperative pyrexia had been ascribed to *Pseudomonas* species identified from sputum cultures and had responded to treatment. Subsequently he had remained well on azathioprine, cyclosporin, prednisolone, and prophylactic itraconazole. On ophthalmic presentation microbiological and serological investigation revealed only a rising cytomegalovirus (CMV) IgM titre. A clinical diagnosis of presumed CMV or *Aspergillus* infection was made and the patient was commenced on amphotericin B and ganciclovir.

Figure 1 Subretinal abscess with overlying vasculitic changes.

Figure 2 Postoperative view of flat superior retina with moderate recurrence of proliferative vitreoretinopathy.

Three days later a pars plana vitrectomy was performed. Immediate microscopy (and subsequent culture) of the vitreous aspirate failed to reveal the causative organism. Consequently the subretinal abscess was drained through two retinotomies using a silicone tipped subretinal cannula. Following air-fluid exchange 1.2 ml saline containing 0.4 mg amikacin, 1 mg vancomycin, and 2.5 µg amphotericin B were injected into the vitreous cavity and the residual air space was then flushed with 25% perfluoropropane. The abscess fluid was demonstrated to contain Gram negative rods, later identified as *Pseudomonas aeruginosa* sensitive to colomycin and imipenem. A single dose of 0.3 mg colomycin was given into the vitreous cavity and a 2 week course of intravenous imipenem was begun. Following this the eye had an acuity of counting fingers and the view of the posterior pole was clear enough to reveal a flat retina with resolving subretinal lesions.

One month later the eye developed a retinal detachment associated with an inferotemporal dialysis and proliferative vitreoretinopathy (PVR) (CP2).¹ This was repaired by lensectomy, epiretinal membrane peel, encirclement, and silicone oil fill.

Four months after the initial ophthalmic surgery the eye has a visual acuity of hand movements. Moderate recurrence of the PVR (CP2) has resulted in some retinal distortion (Fig 2). The patient remains well on continued immunosuppressive therapy.

COMMENT

Organ transplant patients are at increased risk of infection. This may occur at an unusual site, follow an atypical course, or involve opportunistic organisms, making clinical diagnosis difficult. Although subretinal abscess is uncommon it has been reported in association with intravenous drug abuse² and immunosuppression after renal transplantation³; in these cases *Aspergillus* species were considered to be the causative organisms.^{2,3} Although no previous reports of *Pseudomonas* subretinal abscess exist, the outcome from Gram negative endophthalmitis is considered particularly poor.⁴

Since systemic investigation had failed to provide a definitive diagnosis, surgical drainage of the subretinal lesion was considered necessary for diagnostic and therapeutic reasons. Transscleral and internal approaches were considered: the chosen approach via vitrectomy and retinotomy has been described previously in the successful management of a subretinal abscess.²

In common with similar cases,³ the correct diagnosis of the presumed systemic infection was made only with the benefit of ophthalmic sampling for microbiological examination. With the benefit of this, systemic recovery with an acceptable ophthalmic outcome was achieved.

S K WEBBER
Royal Victoria Infirmary,
Queen Victoria Road,
Newcastle-upon-Tyne NE1 4LP

R A ANDREWS
R F GILLIE
D G COTTELL
Newcastle General Hospital,
Westgate Road,
Newcastle-upon-Tyne NE4 6BE

K AGARWAL
Freeman Hospital,
Freeman Road,
Newcastle-upon-Tyne NE3 2SG

Correspondence to: Mr D G Cottrell.

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Peripheral retinal neovascularisation associated with scleral encirclement

EDITOR,—Retinal detachment repair by scleral buckling may rarely give rise to ischaemia. We report a case in which peripheral retinal neovascularisation developed some time after the application of an encircling scleral buckle, and regressed after it was cut.

CASE REPORT

An 80-year-old white man presented in August 1993, with a 24 hour history of sudden onset blurring of the left vision. He had undergone left intracapsular cataract extraction in 1985, left rhegmatogenous retinal detachment repair with an encircling band in 1990, and vitrectomy, internal drainage, and silicone oil tamponade for re-detachment in July 1992. The silicone oil was removed in June 1993. The right eye was blind following penetrating injury in 1952. He took β blockers regularly for hypertension and he smoked cigarettes.

Fig 1A

Fig 1B

Figure 1 Rubeosis iridis present before (A) and absent after (B) cutting of the encircling band.

Fig 2A

Fig 2B

Figure 2 Fundal photographs showing (A) the neovascular complex (NV) arising anterior to the indent, which regressed (B) after cutting the encircling band.

On examination, his left visual acuity was perception of light and a hyphaema and vitreous haemorrhage prevented any fundal view. The eye was normotensive and B-scan ultrasound revealed no abnormality other than the scleral indent. Two weeks after presentation, the haemorrhage had cleared sufficiently to reveal the presence of rubeosis iridis (Fig 1A) and a large neovascular complex arising from the retina at 9 o'clock anterior to the circumferential indent (Fig 2A), confirmed by anterior segment and fundal fluorescein angiography. The retina was normal posterior to the indent. Although initially normotensive, the intraocular pressure was 46 mm Hg 1 month later. A mild anterior uveitis also developed. The encircling band was cut but not removed under general anaesthesia, and the intraocular pressure was 20 mm Hg 1 day postoperatively. The retinal indent was much shallower. On review 2 weeks postoperatively the eye was not hyperaemic, intraocular pressure was 15 mm Hg, and by 1 month postoperatively the rubeosis and anterior retinal neovascularisation had resolved (Fig 1B and 2B). His visual acuity remains 6/18 with +11.00/-1.25x160 aphakic correction.

COMMENT

The patient suffered a vitreous haemorrhage owing to the development of retinal neovascularisation arising anterior to the scleral indent with normal retina posteriorly. We believe that he had chronic ischaemia of the retinal periphery and anterior segment,

induced by the right encircling band, possibly predisposed by his systemic hypertension and long history of cigarette smoking.

Anterior segment ischaemia is a rare but recognised complication of scleral buckling surgery, with a reported incidence of 3% in a general retinal detachment population¹ but is far more common (71%) in patients with sickle SC disease.² It presents typically soon after surgery with corneal oedema, anterior chamber flare, and ocular hypotension. The ischaemia may be due to either impaired blood supply to³ or venous return from⁴ the anterior segment. A tight encircling band might impair both the long posterior ciliary arteries, which contribute to the choroidal circulation, and the choroidal venous drainage. The anterior ciliary arteries may also be compressed by an explant placed under the rectus muscles. These vessels and the vortex veins may also be damaged preoperatively by diathermy, cryotherapy, or detachment of two or more rectus muscles.

However, the onset of ischaemic signs in the present case was later than is typical for anterior segment ischaemia, and rubeosis iridis is also atypical. Ocular ischaemic syndrome, which may occur in older men and result in neovascular glaucoma and visual loss, is also a possibility. Carotid and retinal Doppler ultrasound studies were obtained only postoperatively in this patient, but showed no abnormality. This case has many similarities with anterior hyaloidal fibrovascular proliferation described in diabetics following vitrectomy and cataract surgery.⁵ This has only been reported in diabetics, and usually those with active proliferative retinopathy. Diabetes mellitus was excluded in this patient, however, and the 1 year interval between vitrectomy and the neovascularisation is longer than would be expected.

The causative role for the band in the ischaemia in this case is strongly suggested by the distribution of the retinal neovascularisation anteriorly but not posteriorly, and the rapid regression of both the irideal and retinal neovascularisation once the band was removed; increased retinal artery blood flow has been demonstrated following removal of encircling elements.⁶ Retinal neovascularisation is an unusual complication of scleral encirclement surgery.

I G M DUGUID
J D A McHUGH
R K BLACH
Moorfields Eye Hospital,
City Road,
London EC1V 2PD

Correspondence to: Mr Graham Duguid, Moorfields Eye Hospital, City Road, London EC1V 2PD.

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Peter's anomaly in an infant with a mild degree of Axenfeld's anomaly

EDITOR,—We treated a 5-month-old boy with type II Peter's anomaly associated with a mild degree of Axenfeld's anomaly. He had several iris strands attached to the posterior embryotoxon of the right eye, microcorneas, and lateral displacement of the inner canthi of both eyes. To our knowledge, only four cases of Peter's anomaly with Axenfeld's anomaly have been reported, so this case is probably the fifth report of Peter's anomaly.¹⁻⁴

CASE REPORT

The patient was a 5-month-old male who had been delivered spontaneously at full term. There was no family history of ocular diseases. At birth bilateral corneal opacities were noted. At 5 months he was referred to our hospital for examination. The inner canthi were displaced laterally (Fig 1). The inter-outer canthi distance/inter-inner canthi distance was 2.0 (normal range 2.45-2.96). Slit-lamp biomicroscopy showed central opacities in both eyes, the anterior chamber

Figure 1 The face of the patient. Exotropia of the left eye and lateral displacement of the inner canthi are observed.

Figure 2A Anterior segment of the right eye. Microcornea, 9 mm in diameter, with small sharply demarcated central corneal opacity and anterior synechiae at 9 o'clock and 11 o'clock (arrows) are apparent.

Figure 2B Slit-lamp examination of the right eye after mydriasis. Iris-corneal adhesions are visible.