resulting in extravascular exudation of proteins. It heralded the exacerbation of disease in our patient. Hence, ocular involvement may serve as an indicator of disease reactivation in SLE.

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Sir,

Bilateral reactive subretinal abscesses following *S. pyogenes* septicaemia

Metastatic endophthalmitis can be seen in the context of generalised infection and its course depends on a number of factors including the virulence of the organism. Group A streptococcal endophthalmitis can present as a very aggressive infection with poor prognosis for vision.[1] We present a case of low-grade endophthalmitis associated with group A streptococcal meningitis, which presented after the treatment of the systemic illness and when the patient had been discharged home.

A previously healthy 68-year-old Caucasian woman was admitted with a 3 week history of general malaise and recent-onset lower back pain and rigors. On examination she was pyrexial (38 °C) with a reduced consciousness level, tenderness of the lumbar region and lower limb hyperreflexia. Group A *Streptococcus* was isolated from blood cultures and she was started on intravenous ceftriazone and amoxicillin. Lumbar puncture revealed markedly elevated protein (14.8 g/l, normal range 0–0.4 g/l) numerous neutrophils and occasional lymphocytes. *Streptococcus* A meningitis was diagnosed and the antibiotics were changed to high-dose intravenous benzylpenicillin and oral chloramphenicol according to antimicrobial sensitivities.

She continued to have a spiking pyrexia and MRI scanning of the lumbar region revealed L3,4 discitis with epidural and paraspinal inflammatory changes – presumably the source of the meningitis. With evidence of continuing inflammation despite her current antibiotic regimen, microbiological advice was sought. Broad antimicrobial coverage with oral clindamycin and ciprofloxacin together with intravenous cephradine was initiated and the patient's clinical condition began to improve. She was discharged home on oral clindamycin and ciprofloxacin.

Two months later, the patient presented to eye casualty complaining of blurred vision and floaters in both eyes since shortly after her original admission to hospital. She was still taking her oral antibiotics. On ophthalmic examination visual acuity was 6/12 in the right eye and 6/18 in the left. Apart from a few keratic precipitates, her anterior chambers were quiet with intraocular pressures of 11 mmHg in the right eye and 19 mmHg in the left. There was a mild vitritis with prominent pale subretinal lesions nasally in both eyes (Fig. 1), with no evidence of any immediate threat to vision.

Serology for both *Toxocara* and *Toxoplasma* was negative and it was assumed that the lesions were likely to be subretinal streptococcal abscesses. The patient continued to take oral ciprofloxacin and clindamycin for a further 9 months. Over the next 4 months lesions remained static and the vision improved to 6/9 in both

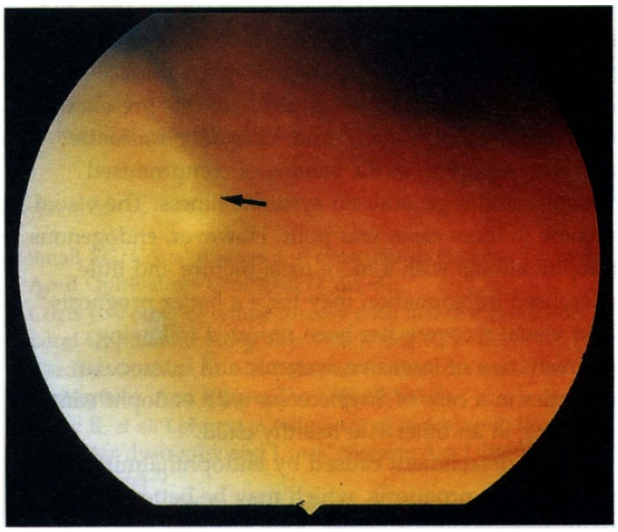

Fig. 1. *Photograph of the nasal aspect of the left fundus showing the large pale subretinal abscess (arrow).*

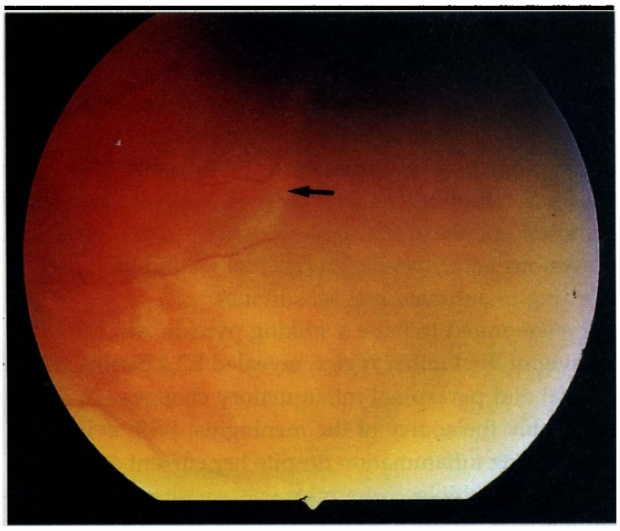

Fig. 2. *The localized retinal detachment (arrow) which extended from the subretinal lesion (not visible in this view).*

eyes. Two months later the patient was noted to have developed a localised retinal detachment in the left eye associated with fibrosis and traction, but no rhegmatogenous component (Fig. 2). Vitreoretinal advice was sought and observation rather than surgery was recommended. One year after presentation to the eye department, visual acuity is maintained at 6/9 in both eyes with no worsening of inflammation or progression of the retinal detachment.

Comment

Endogenous endophthalmitis, which presents bilaterally in approximately 25% of cases, can occur in the context of generalised sepsis, for example meningitis or endocarditis. There may, however, be no obvious source of infection. Culture of non-ocular specimens such as blood frequently yields the causative organism and sampling of intraocular fluids is rarely needed, unlike in exogenous endophthalmitis.[2] Subretinal abscesses have been reported in association with endogenous endophthalmitis. Amongst the organisms associated with this presentation, *viridans* group streptococci[3] and *Klebsiella pneumoniae*[4] have been reported, in the context of compromised immunity and a generalised systemic illness. The visual outcome in these cases was poor. However, endogenous endophthalmitis with a more focal picture and little generalised inflammation may have a better prognosis.[2] Good visual recovery has been reported following administration of intensive systemic and intraocular antibiotics in a case of *Streptococcus mitis* endophthalmitis presenting in an otherwise healthy child.[5]

Retinal detachment caused by endophthalmitis often carries a poor prognosis, which may be better if the organism is of low virulence.[6] One retrospective study of cases of streptococcal endophthalmitis found that infection due to group A streptococci such as *Streptococcus pyogenes* carried an almost uniformly poor prognosis with significant reduction in vision;[1] however, there were no endogenous cases reported in this series.

We report a case of bilateral subretinal abscesses associated with group A streptococcal septicaemia, with a retinal detachment developing in one eye. The patient had been previously treated with high-dose intravenous and then oral antibiotics. Chloramphenicol is known to penetrate well into body tissues including the cerebrospinal fluid and the eye. The clinical course of the endophthalmitis was very mild, given the usual high virulence of the organism, and may in fact represent an inflammatory reaction to streptococcal cell wall antigen, the organisms having been killed by the antibiotics and sequestered in the subretinal space. Further support for an immune-mediated reaction to a streptococcal antigen is provided by evidence that a cell wall peptidoglycan of group A streptococci may be involved in the pathogenesis of certain types of arthritis.[7]

Our patient had first noticed floaters and reduced vision early on in her treatment for meningitis. It is likely that prompt, high-dose administration of appropriate antibiotics averted serious endophthalmitis in this instance.

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