Intraocular nocardiosis: A further case and review

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Abstract

A case is presented of bilateral intraocular nocardial infection associated with lung and liver foci and responding to treatment. Difficulties in diagnosis and treatment are discussed. It is suggested that unusual infections such as this should be considered in the differential diagnosis of chorioretinitis, and should be carefully sought, especially in immunocompromised patients. However, our patient is unusual in having no evidence of immunosuppression predisposing to ocular involvement in his nocardial infection.

Introduction

Ocular nocardial infection is uncommon, but infection of the external eye, and more recently endophthalmitis [1–7] have been reported.

Systemic nocardiosis is notoriously difficult to diagnose, and still has a high mortality, particularly when associated with central nervous system complications. Ocular features may be a clue to the diagnosis, and provide an important guide to progress during treatment.

We present a case of bilateral nocardial chorioretinitis secondary to pulmonary infection in a previously well subject, with good response to treatment.

Case report

A 53-year-old man was admitted to hospital with a one month history of malaise, cough, fever, and weight loss of 14 kg. He had previously been well and there was no history of injury or drug abuse. On admission he was pyrexial with an enlarged liver. A chest Xray showed right apical consolidation (Fig. 1). White cell count was 15,300 with a neutrophilia, and ESR 40 mm/hr. AST and alkaline phosphatase were elevated at 111 (NR 5–35) and 521 (NR 50–300) iu/l respectively. Bronchial brushings and needle biopsy of the lung lesion failed to provide a positive culture, nor did blood cultures or liver biopsy. The patient deteriorated with swinging pyrexia, continued weight loss and WCC rising to 34,000. Serum immunoglobulins were normal.

*Nocardia asteroides* was eventually isolated from an open lung biopsy specimen, and from a liver aspirate obtained with ultrasound guidance to two small echogenic areas (Fig. 2).

The patient was treated initially with cotrimoxazole 4 tablets twice daily. Subsequent to positive cultures, intravenous sulphadimidine 1 gram eight hourly was added to ensure adequate blood levels of sulphamamide.

Ten weeks after the onset and several days after starting antimicrobials, the patient complained of blurring of vision in both eyes. Examination showed corrected visual acuities of 6/24 right and 6/60 left. The anterior segments were normal. There was bilateral vitritis with creamy white choriotinal inflammatory masses at both posterior poles, involving the macula on the right (Figs 3 & 4).

The patient's general condition rapidly im-
proved, and chest Xray signs resolved completely. On review seven months after the onset of symptoms, his visual acuities had improved to 6/12 right and 6/6 left. The vitreous cells had cleared, and there was little chorioretinal inflammation. Although the lesions were flat, they retained a creamy yellow colour and fluffy texture (Figs 5 & 6).

The patient remains on treatment with cotrimoxazole 4 tablets and sulphadimidine 2 grams daily.

**Review and discussion**

*Nocardia asteroides* is an aerobic, gram-positive, partially acid-fast organism, belonging to the order Actinomycetales. It has some characteristics of a fungus, and is sometimes classified as such. However, its cell wall structure and intracellular organelles resemble those of bacteria, and the organism is responsive to antibacterial rather than antifungal agents, particularly to sulphonamides, which are the drug of choice. It is best cultured on blood agar or Sabouraud’s medium without antibiotic, and may take several days to appear in culture. Branching filaments are commonly seen in culture or tissue section, but in older cultures the organism may