Ocular brucellosis

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Abstract

Though brucellosis has been eradicated from many countries, it remains a health problem in many developing countries. We report hereon a 34-year-old woman who presented with recurrent attacks of uveitis unresponsive to treatment with steroids. She was found to have systemic brucellosis, and *Brucella melitensis* was isolated from a paravertebral abscess. The condition responded to systemic antibiotics, and she completely recovered from her uveitis.

Brucellosis is a zoonotic disease caused by the Gram-negative bacteria *Brucella melitensis* or *B. abortus*. It is transmitted from animals to man through the ingestion of unpasteurised milk, milk products, or uncooked meat.¹ Transmission has also been reported by airborne spread² and by beauty skin creams prepared from bovine placental extracts.³ The disease has a worldwide distribution and the incidence may vary from one country to another. Although it has been eradicated or got under control in most western countries, it remains a health problem in many developing countries.

The main purpose of this communication is to report a case of chronic brucellosis with uveitis and isolation of the organism.

Case report

A 34-year-old Saudi female presented with a history of recurrent episodes of redness and pain in the left eye associated with temporal headaches and tearing of nine years' duration. She was seen by several ophthalmologists and was given repeated courses of topical and systemic corticosteroids until she became cushingoid and developed diabetes mellitus, which she has had for the past four years. She had no symptoms in the right eye, but she complained of bilateral flank pains, with recurrent episodes of fever. Four years earlier the patient had recurrent arthritis of the knee joints and interphalangeal joints. She gave a history of ingestion of unpasteurised milk on several occasions in the past.

A general physical examination showed an obese febrile patient with a temperature of 39.7°C. Her visual acuity was 20/40 corrected to 20/20 in the right eye and 20/100 in the left eye. Her vision improved with a pinhole to 20/60 in the left eye.

Biomicroscopic examination gave normal findings in the right eye. Biomicroscopy of the left eye showed deep violaceous perilimbal discoloration of the sclera, and the sclera was swollen; it was also tender to pressure. The cornea was clear, with large, whitish-yellow keratic precipitates. There was no limbal or corneal infiltration or opacities. The anterior

chamber showed 1+ flare and 1+ cells. The pupil was regular and reactive to direct and consensual light, and the lens showed very early posterior subcapsular opacities. Biomicroscopy of the anterior vitreous showed cells but no exudates. Ophthalmoscopic examination of the right eye revealed a normal optic nerve head, blood vessels, and macula. The left eye showed clinical evidence of choroiditis which appeared to be geographic measuring 7×4 mm in the superior nasal quadrant.

Repeated blood cultures were negative. The blood titre for *Brucella* (*abortus* and *melitensis*) was 1:1644. A chest x-ray showed a soft tissue shadow in the area of T8 to T10. Tomography showed a large lytic area in the central and left half of the vertebral body T9. There was some irregularity of the lower articular surface of T9. A large left paravertebral mass was present. A total body gallium scan showed increased activity in the lower thoracic vertebrae.

Aspiration of a paravertebral abscess revealed pus cells with many neutrophils and Gram-negative organisms; on culture these were shown to be *Brucella melitensis*.

The patient was started on streptomycin, intra-muscular injection of 1 g daily for eight consecutive days, together with doxycycline 100 mg orally and rifamycin 300 mg twice daily. The streptomycin was discontinued after three weeks of treatment, and the doxycycline and rifamycin were continued for three months. A repeat gallium scan after two weeks' treatment showed a decrease in the size of the abscess, and a blood count showed leucocytes $5.7 \times 10^9/l$, haemoglobin 10 mg/dl, and sedimentation rate of 16 mm in the first hour.

The patient's symptoms improved dramatically, and ocular examination showed a decrease in the cells and flare in the left eye, with improvement of vision to 20/60 and decrease in the choroidal infiltration to an area of 1.5×3 mm. The impairment of visual acuity in the left eye was thought to be due to the posterior lenticular subcapsular opacities.

Discussion

This case report emphasises the fact that brucellosis remains an important health problem in many developing areas and that some patients with brucellosis may present with uveitis. The disease is curable if discovered early and treated promptly. The diagnosis of brucellosis was missed in this patient for nine years, and she was treated with systemic steroids. Since uveitis secondary to brucellosis is curable, it is recommended that patients with chronic granulomatous uveitis be examined for brucellosis. Systemic brucellosis is not uncommon, and patients may present with a clinical picture similar to that of tuberculosis. In

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fact the patient was first suspected of having tuberculosis. Following treatment this patient remained symptom free for two years and did not require topical or systemic steroids to control her uveitis. Tourists and visitors to developing countries may acquire the infection during their visits and may occasionally develop the illness on their return to their country of origin.⁴

In view of the fact that brucellosis may present with vague and non-specific symptoms, a positive history of ingestion of unpasteurised milk or milk products should arouse suspicion. In some developing countries the milk is not pasteurised before the preparation of cheese, so that this too may transmit the disease from animals to man.

The clinical findings in this patient consisted of anterior granulomatous uveitis, vitreous inflammatory cells, and posterior choroiditis. In addition she had evidence of scleritis, which responded to the antibiotic therapy. The anterior granulomatous uveitis was chronic and did not respond to topical steroids. The patient persisted in having smouldering, recurrent episodes of uveitis until definitive systemic antimicrobial agents for brucellosis were given.

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- 3 Grave W, Sturm AW. Brucellosis associated with a beauty parlour. *Lancet* 1983; i: 1326-7.
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