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Orbital tuberculosis in childhood

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SUMMARY An 11-year-old Indian girl living in England developed proptosis due to tuberculosis of the orbit. The proptosis regressed and she recovered fully after chemotherapy. While malignancy, developmental anomalies, and nontuberculous infections are commoner causes, a tuberculin test should be included among the investigations of children with proptosis.

Orbital tuberculosis is extremely rare,[1] especially in childhood and particularly in the Western Hemisphere. We report here on an 11-year-old girl who presented with proptosis due to tuberculosis.

Case report

An 11-year-old Indian girl was admitted in May 1978 to Birmingham Children's Hospital for investigation of proptosis. She complained of intermittent headache for 2 months and of protuberance of her left eye, fever, and a painful swelling above her left knee for 2 weeks. Three years previously both of her parents had been treated for tuberculosis, but she had not been given BCG immunisation.

On examination she was pyrexial and pale, with a soft-tissue swelling over the lower lateral aspect of the left femur and proptosis upwards and outwards of the left eye.

Investigations included Hb 10·4 g/dl, leucocytes $6{\cdot}7\times10^9$/l, and erythrocyte sedimentation rate (ESR) 74 mm/h. A chest *x*-ray showed a paratracheal lobular mass without hilar involvement. Skeletal *x*-rays showed a destructive metaphyseal lesion on the lateral aspect of the lower femoral shaft, with scalloped internal margin, periosteal reaction, and associated soft-tissue swelling, and also a soft-tissue mass on the inferior margin of the left orbit. A CT scan (Fig. 1) showed a soft-tissue mass in the left orbit on the posterolateral and retrobulbar aspects, pushing the globe forward. The posterolateral wall was thinned, but no major destructive lesion was seen. Bone marrow aspirate was normal. Her Mantoux test, 1:10000, was strongly positive. Biopsy of the femoral lesion showed tuberculosis, and

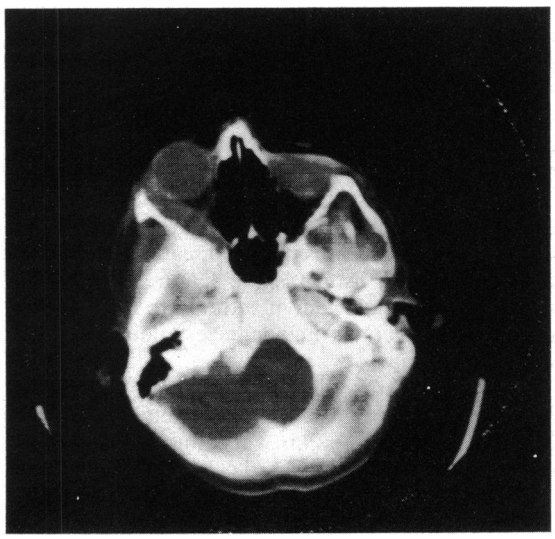

Fig. 1 *CT scan showing a soft-tissue mass in the posterolateral and retrobulbar aspects of the left orbit, pushing the globe forward.*

Mycobacterium tuberculosis was cultured from this and early morning urine specimens.

She was treated with streptomycin for 6 weeks and with rifampicin, isoniazid, and pyridoxine for 18 months. She made a complete recovery and the proptosis regressed.

Discussion

Very few patients with orbital tuberculosis have been reported in recent years. Mortada[2] described 3 from Egypt and Agrawal *et al.*[3] 14 from India, but only one case has been recorded for the past 40 years in the West, a 15-year-old Negro with an orbital mass and

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pulmonary tuberculosis who was diagnosed in Philadelphia after surgical exploration of the orbit.[4] The CT scan of the American boy's orbit showed appearances similar to our patient's.

Haematogenous spread from a primary tubercular focus may affect the bones of the orbit, or, as in the 3 patients described by Mortada,[2] it may lead to infection in the lacrimal ducts or glands. All ages may be affected. Orbital infection does not necessarily lead to proptosis but may also present with sinus formation, keratitis, and ectropion. The course of the disease is typically slow, and the duration of symptoms in the series studied by Agrawal *et al.*[3] ranged from 2 months to 7 years. At presentation there is nearly always evidence of widespread tuberculosis, and the tuberculin tests were positive in all the 12 patients who were reported to have been tested.[2–4]

Although malignancy, developmental anomalies, and nontuberculous infections are much commoner causes of proptosis in childhood,[5] a tuberculin test should be included among the investigations performed, as orbital tuberculosis has probably been underdiagnosed. Agrawal *et al.*[3] found 14 examples in India during 5 years.

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This patient was included in a series of children with unilateral proptosis reported elsewhere.[5]

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