TUBERCULOUS OSTEITIS OF SKULL : A CASE REPORT

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Summary: Tuberculosis involves the flat bones of skull infrequently. The briefcase report given here is of a young female who presented with fever, dry cough as well as a swelling in scalp and was found to be a case of tuberculous osteitis of skull and pulmonary tuberculosis. The patient showed excellent response to treatment.

INTRODUCTION

Tuberculosis is a common disease in developing countries. The disease affects bones in 1% of cases and the involvement of skull occurs in 0.2% - 1.37% of these. The first case of skull tuberculosis was described by Reid in 1842, followed by a few more case reports. However, Mohanty et al reported 22 cases of skull tuberculosis among a total of 156 cases of tuberculous osteomyelitis, confirming the rarity of tuberculous lesions in flat bones of skull.

CASE REPORT

A female, aged 30 years, presented with low grade fever and dry cough for one month for which she had been prescribed several antibiotic courses. Fifteen days after the symptoms, she had noticed a gradually increasing swelling in scalp, following a minor trauma. On examination, patient was found to be afebrile. Systemic examination was also normal. In the scalp there was a single, non-pulsatile, non-tender, fluctuant, soft tissue swelling of size 4 cm x 4 cm near the midline. It had a smooth surface, well defined margins and there was loss of hair over the swelling. However, erythema, sinus and cough impulses over the swelling were absent. Laboratory investigations indicated haemoglobin 12g%; total leucocyte count - 9800 per cumm; differential leucocyte count polymorphs 60%, lymphocytes 34%, monocytes 4% and eosinophils 2%; erythrocyte sedimentation rate - 65 mm in first hour; blood sugar 76 mg%; liver and kidney function tests normal. The routine chest roentgenogram (PA view) was also normal. However, contrast enhanced computerised tomography (CECT) of chest showed mediastinal and left hilar lymphadenopathy with internal necrosis, compression of bronchi and atelectasis affecting anterior segment of left upper lobe. Although pulmonary parenchymal lesion was not seen, the findings were highly suggestive of extrapulmonary tuberculosis. CECT of head showed a transcranial midline frontal swelling within the scalp which was round, sharply marginated, encapsulated and with negative attenuation values (Fig. 1). The swelling, apparently, was associated with the underlying bone causing erosion of both the tables of skull and had an epidural, thin, enhancing, intracranial component just to the left of anterior edge of the falx cerebri (Fig. 2). Fine needle aspiration cytology examination of the swelling revealed an epithelioid granuloma. On culture, the aspirate was positive for M. tuberculosis. A diagnosis of pulmonary tuberculosis with osteitis of frontal bone was made and patient was prescribed Isoniazid (300 mg/d),
Rifampicin (450 mg/d), Ethambutol (800 mg/d) and Pyrazinamide 0500 mg/d) for 2 months followed by Isoniazid (300mg/d) and Rifampicin (450mg/d) for 4 months. After two months, the patient lost all the symptoms and the scalp swelling disappeared. Repeat CECT of chest and head was done after 3 months and satisfactory progress was recorded.

DISCUSSION

Circumscribed tuberculous osteitis of skull is a rare condition, often associated with trauma. Strauss was the first to review 223 cases of bone tuberculosis already reported in literature\(^2\), as early as 1931 and observed that tuberculous bone lesions occurred mainly in cancellous bones. Since flat bones of skull contain little cancellous tissue, there is comparative rarity of the disease in skull. Also, skull osteitis is often associated with tuberculosis elsewhere, e.g. in lung, cervical lymphnodes of other bones. Trauma too is associated with tuberculous osteitis of skull and the frequent sites are frontal or parietal bones.

In the circumscribed (perforating) type of disease, there is a characteristic sharply circumscribed destruction of both the tables of skull, without causing sclerosis and clinically presenting as a fluctuant, soft tissue, sometimes pulsatile swelling due to bone destruction\(^6\). However, Raymond reported only one case and Villiman 11 cases of just the destruction of outer table only. Traditionally\(^5\), surgical curettage was advised as a part of treatment, but now anti-tuberculosis therapy alone without surgery is treatment of choice.

REFERENCES

5. Strauss D.C. Tuberculosis of the flat bones of vault of skull. *Surgery, Gynaecology and Obstetrics* 1933; 57: 384