

The role of surgery in tuberculous mastoiditis: appropriate chemotherapy is not always enough

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Abstract

We present a case of tuberculous otitis media in which a facial palsy occurred after the start of appropriate chemotherapy. To our knowledge this circumstance has not been described previously. It has been argued that radical surgery is completely unnecessary if chemotherapy is commenced early in the disease. We would suggest that this is not always the case, and would advocate a more measured approach.

Key words: Tuberculosis; Mastoiditis; Facial paralysis

Introduction

Tuberculosis of the middle ear accounts for only 0.04 per cent of all cases of chronic suppurative otitis media (Jeans and Friedmann, 1960). It may, however, be the cause of substantial morbidity for the patient. Throughout the literature over recent years, the opinion has been that once the diagnosis has been made the need for surgical treatment should be minimal. The role of surgical treatment even for the complications of middle-ear tuberculosis has been challenged recently (Singh, 1991). We present a case which shows that a more measured response to tuberculous otitis media and its complications is required.

Case report

A 19-year-old British-born Asian male presented to the ENT clinic with a one-week history of left-sided otalgia and hearing loss which had not responded to antibiotics. He had no relevant otological or medical history. Examination revealed an inflamed tympanic membrane with a bulging posterior segment. Pure tone audiometry showed a conductive hearing loss in this ear. The right ear was entirely normal.

A myringotomy was performed revealing an acutely inflamed middle-ear mucosa with inspissated pus. A diagnosis of acute otitis media was made at this stage, but bacteriological examination of the pus was negative. After further antibiotic treatment there was no improvement in his condition. Mastoid X-rays showed ectopic calcification in the middle ear, but reasonably well pneumatized mastoids (Figure 1). His chest X-ray showed an opacity at the right hilum (Figure 2). A computed tomography (CT) scan of his temporal bones showed a mass of granulation tissue in the middle ear and mastoid. There was evidence of destruction of the bony septae in the mastoid cavity (Figure 3). A biopsy of his post-nasal space was performed and histological examination of the specimens showed epithelioid granulomata with caseation. On this basis a diagnosis of tuberculosis was made. Treatment with isoniazid and rifampicin was commenced

but he returned three weeks later with a right facial palsy. A mastoid exploration was performed confirming a large mass of pale fleshy granulations, which surrounded the ossicles. The facial canal was dehiscant along its horizontal segment. Histological examination of the granulations showed a chronic inflammatory cell infiltrate, with caseating granulomata but no acid fast bacilli.

Three weeks post-operatively his facial palsy had completely recovered, and at six months, having completed his course of chemotherapy, he was well with a dry and stable ear.



FIG. 1
Plain X-ray of the left ear showing ectopic calcification (arrow)

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Accepted for publication: 29 April 1997.

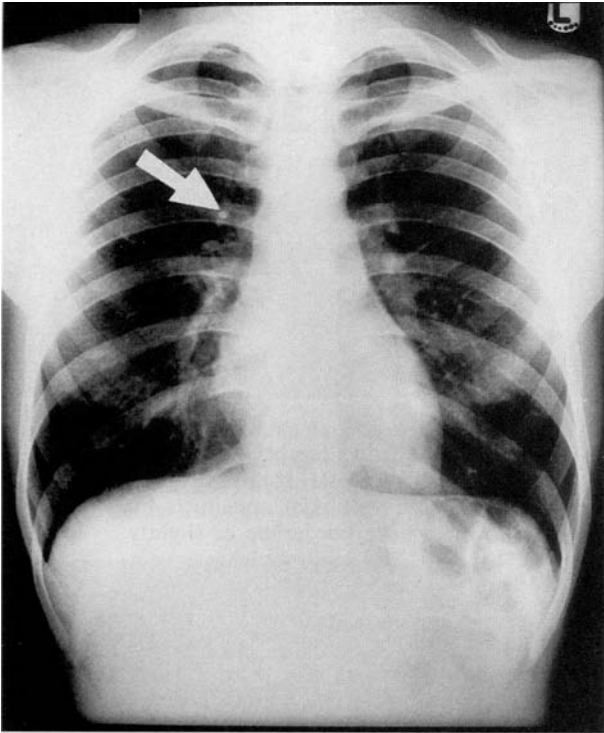


FIG. 2

Chest X-ray with a ghon focus at the right hilum. (arrow)

Discussion

Facial palsy remains a cardinal feature of tuberculous otitis media. The incidence ranges from 24 per cent (Rames and Gertler, 1985) to 39 per cent (Samuel and Fernandes, 1986). These rates are substantially less than in earlier reports (Turner and Fraser, 1915; Guthrie, 1920). These high rates are explained by analysis of the pathological processes (Skolnik *et al.*, 1986). Bone destruction is often a rapid and early feature of tuberculous infection with destruction of ossicles and even cortical bone over the mastoid tip. It is not therefore surprising that the thin bony capsule of the facial nerve is often involved leading to facial palsy as a presenting feature.

Most of the literature pertaining to tuberculous otitis media agrees with the opinion of Glover *et al.* (1981) that early recognition of the possibility of tuberculosis will lead to prompt instigation of specific chemotherapy, thereby reducing the need for radical surgical procedures. Palva *et al.* (1979) suggest that an ear for which anti-tuberculous medication has been started is a safe ear in which to undertake tympanoplastic surgery. Singh (1991) further relegates the role of surgery stating that operation in the presence of facial palsy is completely unnecessary as recovery is dependent solely on early treatment with chemotherapy.

The case we have described in this paper is the only one to our knowledge where a facial palsy has developed after the commencement of appropriate chemotherapy. This

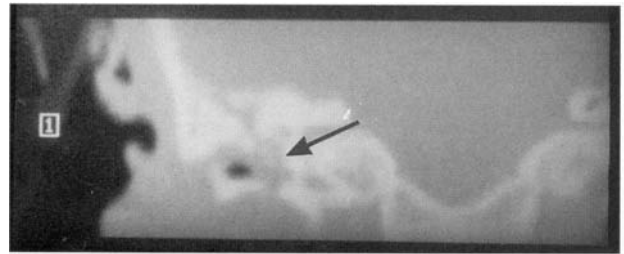


FIG. 3

Reformatted coronal CT of the ear, with a soft tissue mass filling the ear and mastoid.

fact together with the surgical findings convince us that the role of surgery in the treatment of complications of middle-ear tuberculosis should not be condemned out of hand. It should always be remembered that the resolution of granulation tissue may be slow, and that therefore the inflammatory process continues to be a threat to nerve integrity. Whilst we would agree with the opinion that surgery must take a secondary role to that of chemotherapy, we would urge the otologist to remember that the instigation of such therapy does not absolve him or her from their responsibility to the patient.

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