Case Report

Primary Tuberculous Mastoiditis with Gluteal Cold Abscess: A Case Report

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Abstract

Tuberculous mastoiditis is an uncommon form of tuberculosis (TB) which principally affects children. We report a case of extra-pulmonary TB involving the middle ear and mastoid. There was an associated gluteal cold abscess. To our knowledge, this association has not been previously reported. The diagnostic features of the condition are highlighted as well as the need for this entity to be considered in the differential diagnosis of chronic otorrhoea especially in children.

Key words: Tuberculosis; Mastoiditis; Cold abscess; Otitis.

Introduction

Infections of the middle ear and mastoid antrum are common in developing countries where pyogenic bacteria are responsible for the majority of cases[1]. In countries where tuberculosis (TB) is still common, TB of the middle ear and mastoids may be the initial presentation of systemic disease, which requires treatment[2,3]. Tuberculosis can reach the mastoid through the Eustachian tube, haematogenously, by way of lymphatics or through a perforated tympanic membrane[4,5]. Primary infection of the mastoid in the absence of a lung focus is very rare[6].

Diagnosis of TB mastoiditis is seldom made preoperatively because it has some otological and radiological features similar with chronic mastoiditis, and associated secondary infection usually makes bacteriological diagnosis difficult[1,2]. Diagnosis is therefore based on histological assessment of biopsy of granulations which show caseous granulomas[7].

In this communication, we report a rare case of TB mastoiditis which was associated with a gluteal cold abscess. Details of clinical, radiological and histological examination are presented and a review of the literature.

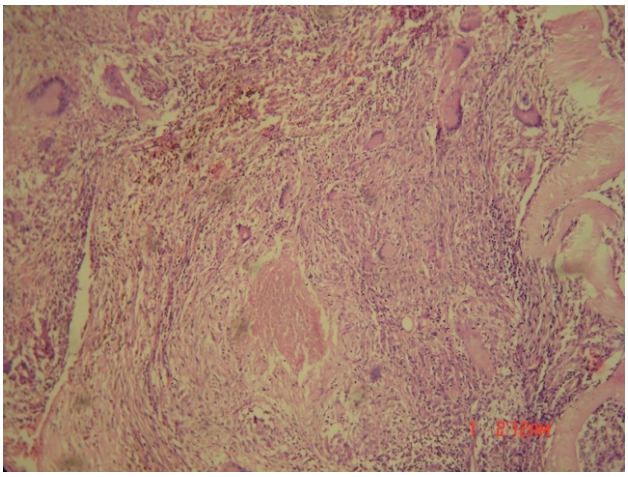
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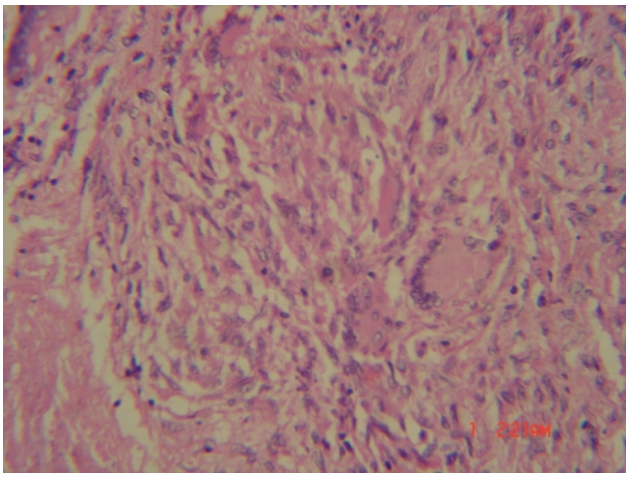
Case Report

An 11 Year old boy, presented to the Ear, Nose and Throat clinic with a one year history of foul smelling right ear discharge and eight month history of a discharging sinus from a swelling behind the right ear. There was associated right sided hearing loss before he later developed a swelling in the left gluteal region. His symptoms were initially associated with fever and severe pain at both sites, but as months went by, the ear ache became less severe and the gluteal swelling ceased to be painful. There was no cough but there was appreciable loss of weight.

Clinically, he looked ill and emaciated. There was a profuse discharge of offensive pus from the right ear and also from a sinus draining a post-auricular sub-periosteal abscess. The facial nerve was intact and there were no other neurological deficits. There was a massive non-tender gluteal abscess on the left side. No abscesses were however found elsewhere. The respiratory rate was 30 cycles per minute, the trachea was central and vesicular breath sounds with good air entry in both lungs were heard on auscultation. Other systems were

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within normal limits. A diagnosis of chronic otitis media with a gluteal abscess was made.

Ear swabs were taken from the right ear, the draining sinus behind the ear and a needle aspirate obtained from the gluteal abscess and sent for microscopy, culture and sensitivity and Ziehl-Neelsen staining for acid fast bacilli (AFB). Staphylococcus aureus and streptococcus pyogenes species were isolated from all specimens. Both organisms were sensitive to cefuroxime, Ofloxacin and gentamycin in that order. No AFB were seen. Plain radiographs showed loss of mastoid air cells with increased sclerosis of the right mastoid suggestive of chronic mastoiditis. Chest radiographs were normal as were the results of serum urea, electrolytes and urinalysis. Mantoux test was negative and full blood count was also unremarkable but the erythrocyte sedimentation rate was elevated to 112 mm/hour. Human immunodeficiency virus (HIV) screening was negative by double ELISA. The patient was subsequently placed on cefuroxime, and Piroxicam without significant improvement.

The right mastoid was explored via a post-aural route. Sub-periosteal pus was drained and extensive granulation tissue in the cavity was removed. Good communication was established with the middle ear cavity from which granulation tissue was removed as well. The granulation tissue and pus were sent for histological and microscopical investigations respectively, but no organisms were isolated. The histological specimen showed several caseous granulomas consisting of epithelioid cells, Langhans giant cells and lymphocytes consistent with TB (figs 1 and 2). The patient was placed on anti-tuberculous treatment for nine months and did very well with resolution of the ear discharge, sub-periosteal, and gluteal abscesses but there was no appreciable improvement in the deafness of the right ear. Subsequent follow up in the clinic revealed a subtotal perforation of the tympanic membrane which is still under observation, but no surgical operation is presently contemplated.

Discussion

TB mastoiditis is an uncommon form of extra-pulmonary TB which principally affects children, but may also be seen in adults[2,4]. In the paediatric age group, 60% of cases are under one year of age[2,6,8]. Involvement of the mastoids by TB is associated with a primary pulmonary focus in about 32-88% of cases in some series[7,8]. In a south African study by Wolfwitz, 2 of the 5 cases reported had concomitant pulmonary TB[9]. Our patient did not have lung involvement as evidenced by clear lung fields and the absence of nodular enlargement on the chest radiograph. This primary affectation of the mastoids is rare as reported by Lagundoye at the University College Hospital, Ibadan[2].

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The diagnosis of TB mastoiditis poses a diagnostic challenge and a high index of suspicion is required. In areas where TB is endemic patients presenting with chronic otorrhoea require evaluation for the possibility of TB mastoiditis especially when associated with hearing loss[7]. Histologic examination of biopsy material is essential for diagnosis since secondary infection may result in growth of other organisms as observed in this patient. Similarly failure of isolation of AFB does not exclude the diagnosis of TB because smears can be occasionally negative in the presence of active infection.

Local complications frequently arise in TB mastoiditis[4,10]. Our patient had hearing loss, which was gradual in onset, this being the most common complication. Although up to 36% of patients with TB mastoiditis are reported to have facial nerve palsy due to involvement of the facial nerve canal[8], we did not observe such in this patient.

Of interest is the coexistence of TB mastoiditis with a gluteal cold abscess in this case. This association has not been previously reported in the literature. Although the precise mode of spread to the gluteal region is uncertain, it is presumed to be by the lympho-haematogenous route since no psoas cold abscess was detected clinically. Additionally, even though abscesses in unusual sites may be pointers to some form of immune deficiency, tests for HIV antibodies were negative in this patient. Quite remarkable is the complete resolution of the cold abscess and TB mastoiditis shortly after commencing antituberculous chemotherapy. The patient has since completed treatment and remains well at one year of follow up.

While this report is aimed at highlighting an uncommon presentation of extra-pulmonary TB, it is recommended that in patients (particularly children) presenting with a prolonged history of chronic ear discharge, TB mastoiditis should be considered in the differential diagnosis unless proven otherwise by microbiological cultures and histological examination.

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