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TUBERCULOUS OTITIS MEDIA IN A FOUR – MONTH – OLD INFANT*

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Tuberculosis of the middle ear is currently a rare disease but still occurs and may cause permanent hearing loss. A four-month-old infant with chronic left-ear drainage was diagnosed with tuberculous otitis media by biopsy examination and PPD positivity without BCG. He was treated successfully with antituberculous therapy. Tuberculosis should be considered in the differential diagnosis of chronic ear infection, especially in young infants. *Key words: tuberculosis, otitis media, mastoidits.*

Although tuberculous otitis media and mastoiditis are rare diseases today, they cause significant morbidity when they occur. Because of the low incidence of these diseases, diagnosis may be delayed due to clinicians' unawareness of the characteristic signs and symptoms. This delay in diagnosis, however, may result in deafness, ataxia and cranial nerve palsy for the patient[1,2]. The following case report is offered in hopes of alerting physicians to the rare occurrence of these disease.

Case Report

A four-month-old boy was admitted with a history of neck masses and fever that had persisted for more than twenty days despite parenteral antibiotic treatment. His left ear had been draining for three days. Physical examination showed that his left ear drum was draining. In the postauricular and preauricular regions, masses measuring 1.5 cm in diameter were palpable. The patient had no BCG vaccine scar. Routine laboratory findings, chest x-ray and immunologic investigations were within normal limits. All bacterial and tuberculous cultures of the left ear drainage were negative. As bacterial mastoiditis could not be ruled out, sulbactam-ampicillin and netilmicin administration was initiated.

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After one month of therapy there was no difference in the size of the masses, and the left otorrhea was continuing polypoid mass was then removed from the left ear and found to be "inflammatory granulation tissue" on histopathologic examination. The mass on the left mastoid had slightly softened, and purulent and necrotic material was aspirated via a small incision. The PPD (purified protein derivative) test resulted in 15 mm induration. Bacteriologic and tuberculous cultures of both this material and the granulation tissue were negative. When the left otorrhea stopped and the masses became smaller, the patient was discharged from the hospital.

One month later he was admitted again because the mass on the left mastoid had increased in size (3 x 2 cm) and the left otorrhea had resumed simple mastoidectomy and lymphadenopathy excision was done. The mastoid cavity was filled with gray-colored, loose tissue which extended to the neck. The biopsy report revealed caseous granulomatous tissue (Fig. 1). Examination for acid fast bacilli was negative. The family screening and the mother's genitourinary examinations for tuberculosis were negative. The patient was started on a regimen of isoniazid (10 mg/kg/day) and rifampicin (10 mg/kg/day) daily for fifteen days, then continued at two days per week for nine months. At the follow-up examination the otorrhea had stopped, the size of the mass was reduced, and the patient had gained weight and exhibited good systemic recovery. There has been no recurrence since the end of the therapy.

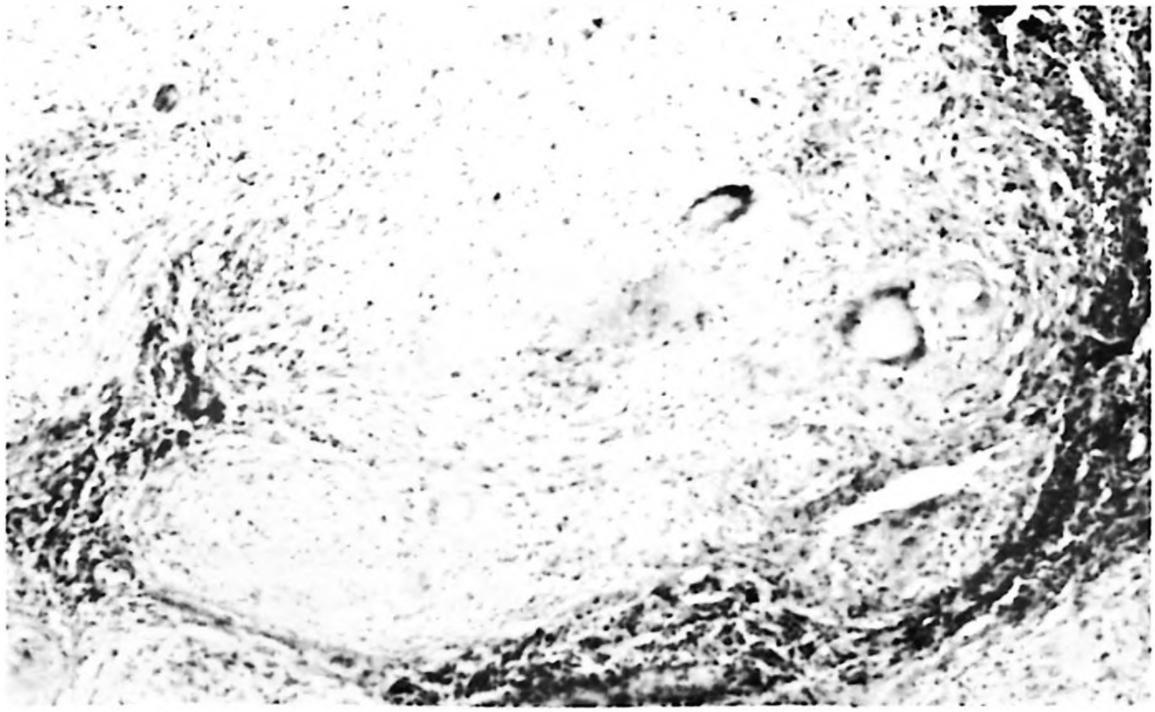

Fig. 1: Histological section of the biopsy showing caseous granulamatous tissue with Langhans giant cells (H + E, x 100).

Discussion

Here in we report an infant with chronic otitis media whose biopsy examination revealed caseous granulamatous tissue. This histopathologic finding can be seen in M.tuberculosis and in atypical mycobacteria infections. Although there was no microbiological proof, the clue to tuberculous infection was the lack of improvement with non-specific antimicrobial therapy, the good response to systemic antituberculous therapy and PPD positivity without BCG vaccination. Wegener's granulomatosis, which can present with granulamatous and chronic otitis media, was excluded by the lack of specific clinical and histopathologic findings[3]. Fungal agents were not found on histopathologic examination.

Before the advent of antituberculous chemotherapy, the occurrence of tuberculous otitis and mastoiditis was frequent and widely recognized. The contribution of M.tuberculosis to the etiology of otitis media in infants has decreased dramatically from an incidence of 25 to 50 percent in 1915[2, 4-7] to the rare case reports of today. Otitis tuberculosis is considered to be either secondary or primary. In a secondary infection, the spread of the organism to the middle ear is hematogenous or via the eustachian tube from the primary focus in adjacent organs[1, 4, 5]. In primary otitis tuberculosis, the spread of the organism to the middle ear is via the eustachian tube. It has mainly been reported in bottle-fed infants in whom milk infected with Bovis strains of M.tuberculosis reached the middle ear[1, 4-6]. In our case, we could not find any primary focus for tuberculosis. The family screening and the mother's genitourinary examinations for tuberculosis were also negative. There was no proof as to the type of mycobacterium because the cultures were negative for tuberculosis. Tuberculous otitis media and mastoiditis have become rare but not nonexistent diseases. They should always be considered in the differential diagnosis of chronic middle ear discharge and mastoiditis that does not respond to convetional antibiotic treatment.

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