

Tuberculous Mastoiditis: A Rare Disorder

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ABSTRACT

Tuberculosis can masquerade any disease. Tuberculous mastoiditis is a silent disease. We report a case of tubercular mastoiditis which presented as a post-auricular swelling with ear discharge, pain, tinnitus, and reduced hearing. Radiological findings were suggestive of abscess; however, the histopathological report showed evidence of tubercular foci. A high level of clinical suspicion is needed for early diagnosis and antitubercular therapy should be initiated early to prevent the possible complication.

Keywords: Abscess, Pain, Tuberculosis mastoiditis

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INTRODUCTION

In the 18th century, Jean Louis Petit was the first to describe tuberculous mastoiditis. The classical picture of tuberculosis otitis media was presented by Wilde in 1853 as a disease characterized by painless, insidious onset of ear discharge, multiple perforations in the tympanic membrane, pale, granulations in middle ear cleft. In 1882, the destructive nature of this disease was discussed by Politzer; it was in 1892 that Koch demonstrated the tubercle bacilli.^[1]

Eustachian tube, blood-borne dissemination, or direct implantation through the external auditory canal and tympanic membrane perforation are the three routes tuberculosis which can affect the middle ear. In developing countries, the incidence is thought to be more and is on the rise.^[2] Extrapulmonary tuberculosis in recent years has more frequently been associated with mastoiditis in patients with immunodeficiency state.^[3]

CASE REPORT

A 21-year-old Malay gentleman presented with the left post-auricular swelling for 2 weeks. The patient also had left ear discharge, pain on touch, tinnitus, and reduced hearing. It started with a sudden onset of swelling and subsequently noted to have pus discharge from the left ear. He had no history of ear infection before this. Neither convulsions, headache, nor loss of consciousness were reported. He was HIV negative with no history of previous tuberculosis contact. The swelling measured about 3 cm x 3 cm, it was firm and tender. Otoscopic examination showed inflamed external auditory canal with granulation tissue and pus discharge. The tympanic membrane was obscured. No lymph nodes were palpable. He was treated for mastoid abscess and was started on intravenous ceftriaxone. High-resolution computed tomography of temporal was suggestive of mastoid abscess with otitis media and post-auricular subcutaneous collection. The left modified radical mastoidectomy was done. Intraoperatively noted subperiosteal abscess with mastoid bone destruction and granulation tissue filling the mastoid cavity till the antrum. Pus and tissue were sent for histopathological examination and no organism was detected. Post-surgery, the patient developed infection over the surgical site which led to wound breakdown. He required regular dressing, multiple course of oral and intravenous antibiotic. Two months post-surgery, he was admitted for the left residual mastoid abscess. Repeated high-resolution computed tomography was suggestive of ongoing pre-existing infection with new infections. Pus taken was tested for acid fast bacilli (AFB).

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Histopathology report was positive for tuberculosis. The patient was started on anti-tuberculous treatment in which his symptoms improved tremendously. The ear discharge stopped and wound healed well.

DISCUSSION

Tuberculous mastoiditis is a rare occurrence. It should be considered in patients with chronic middle ear infection who presents with painless ear discharge and does not respond to routine antibiotic therapy. Tuberculous mastoiditis or middle ear should also be considered in individuals with multiple perforations, in some cases central or total perforations and also in those with hearing loss disproportionate to the extent of disease.^[4] Facial nerve palsy is rare symptom.^[5] Our patient had pain in the beginning, with the presence of pus discharge and granulation tissue seen on otoscopy. This may sometimes be confused with cholesteatoma as the pus discharge and granulation tissue may extend into the mastoid.^[3,6] One of the common features is perforation of the tympanic membrane (64–77%) and may be single or multiple.^[6] Mastoid involvement is frequently shown on the X-ray and on computed tomography as poor pneumatization or clouding due to granulation tissue or complete bone destruction.^[6,7] Diagnosing tubercular otitis media requires a high index of suspicion even in the absence of pulmonary tuberculosis. It is difficult to demonstrate AFB in ear discharge. The positivity for AFB in ear discharge varies from 5% to 35% and it improves to 50% on repeated examinations.^[8] It is mandatory to start the treatment early to prevent serious complication.^[9] The role of surgery is limited and indications for surgical intervention include cases unresponsive to medical therapy and extensive disease with bone sequestrae.

CONCLUSION

Tuberculous otitis media is a rare clinical manifestation, which can damage the middle ear and other surrounding structures if left untreated. The diagnosis is difficult therefore treatment is usually delayed. It should be considered as a differential diagnosis of chronic middle ear discharge which does not respond to usual therapy. Delay in diagnosing this disease can lead to complication. A high level of clinical suspicion is needed for early diagnosis and anti-tuberculous therapy remains the main stay of treatment for mastoid and middle ear tuberculosis.

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