

Tubercular Otitis Media: A Rare Case

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Abstract: *Tubercular otitis media is a chronic granulomatous infection of middle ear and mastoid. Patients having tubercular otitis media often present with non specific symptoms and signs, similar to those of chronic otitis media. The high index of suspicion is required in patients living in highly endemic areas who present with otorrhoea not responding to conventional treatment. Appropriate evaluation of tubercular otitis media should be carried out to confirm the diagnosis. In tubercular otitis media antitubercular drugs are usually effective, surgery is rarely needed.*

Keywords: Tubercular otitis media, Antitubercular drugs

1. Introduction

Tuberculosis is a chronic granulomatous infection that can affect any part of the temporal bone. Mycobacterium tuberculosis is etiological agent. Tuberculosis is predominantly pulmonary, 12-15% of reported cases of tuberculosis involve extra pulmonary sites. Rarely temporal bone may be involved with tuberculosis – tubercular otitis media or tubercular otomastoiditis.¹

Tubercular otitis media usually remain undiagnosed, often confused with acute or chronic middle ear condition unless appropriate evaluation is not performed.² The clinical presentation of tubercular otitis media is profuse, painless otorrhoea, multiples perforation, pale granulation, and severe hearing loss and bone necrosis. Complication like facial nerve paralysis is highly suggestive which is reported in 10-20% of patients and occurs early in the disease process.¹ The hearing loss is frequently conductive due to tympanic membrane perforation and ossicular necrosis. It could be mixed due to labyrinthine involvement. Earliest diagnosis and initiation of medical therapy will prevent or limit permanent hearing loss and facial nerve paralysis.³

2. Case Report

55 year old male presented to ENT outpatient department with right ear discharge, ear pain and reduced hearing from last 6 months. History of cough with expectoration and evening rise of temperature is present for the last one year. Microscopic examination of ear showed total perforation of right ear with purulent discharge. Characteristic ivory bony sequestrum and cheesy material was found. Chest x ray showed right upper lobe consolidation with multifocal consolidation of left upper lobe. CB NAAT analysis showed high levels of mycobacterium tuberculi without rifampicin resistance. High resolution computer tomography of temporal bone showed soft tissue attenuating lesion in the epitympanum and mesotympanum, with erosion of anterior wall of external auditory canal.. Right chronic otomastoiditis with erosion of ossicles seen. Computer tomography of thorax showing multifocal consolidation with cavitary lesion and centrilobular nodular opacities in bilateral lung

parenchyma. Patient was referred to RNTCP Centre for starting antitubercular treatment and is kept on follow up to look for any complications.

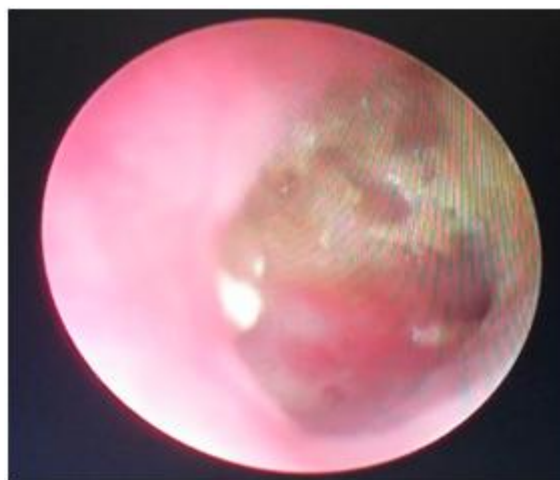


Figure 1: Otoscopic finding.

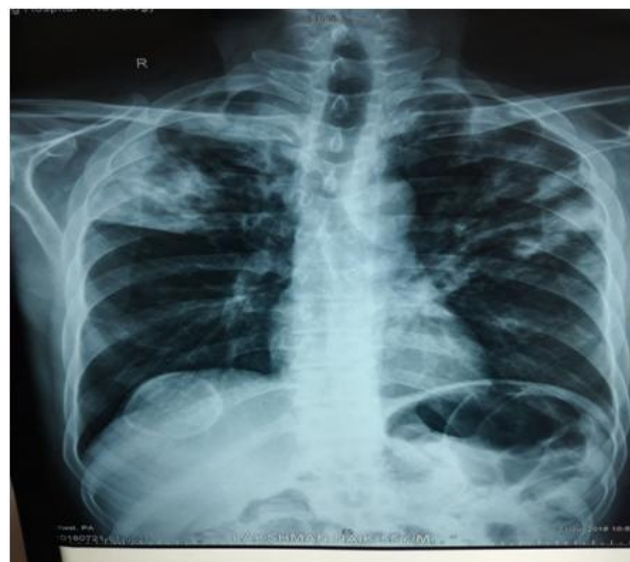


Figure 2: Chest X ray PA View

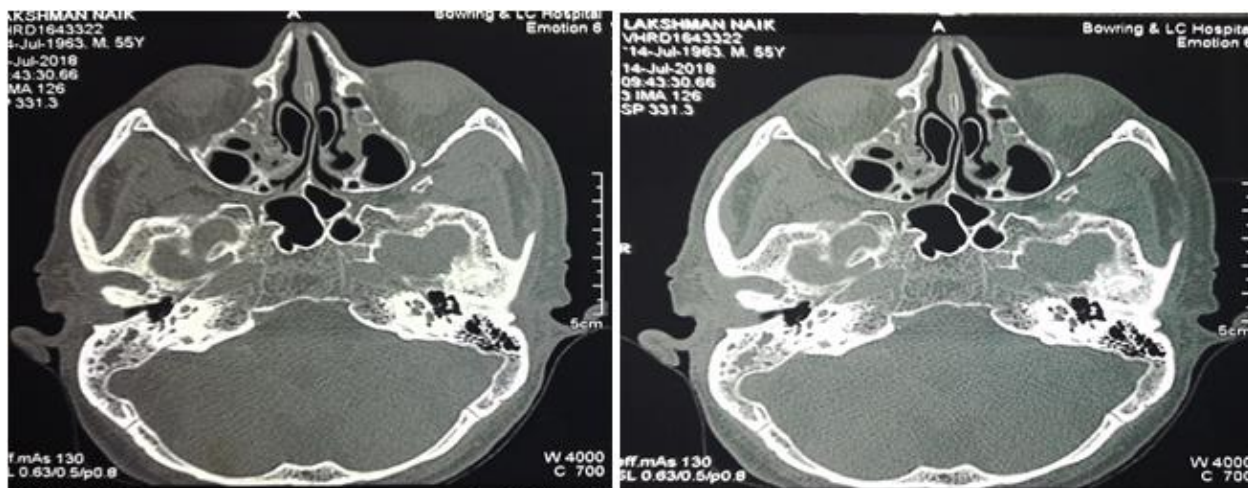


Figure 3: HRCT Temporal Bone

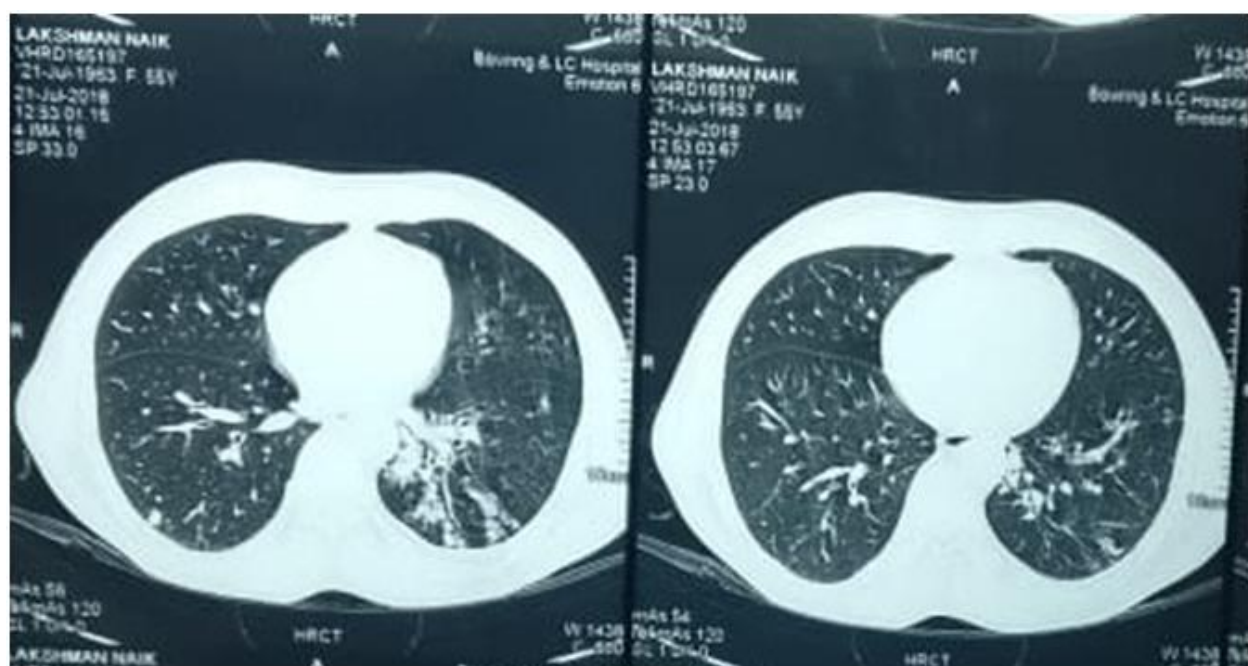


Figure 4: CT Thorax

3. Discussion

Tubercular otitis media is rare condition constitute 0.3- 0.9% of all patients with chronic otitis media. Tubercular otitis media is present in 0.04 – 0.9 % of all tuberculosis patients.¹ Early diagnosis is essential for treatment as tubercular otitis media can lead to devastating complications.

Tubercular otitis media usually occurs in patients with history of chronic middle ear infection. Tubercular bacilli spreads via Eustachian tube, directly via perforated tympanic membrane, contiguous spread from adjacent intracranial/extracranial infected focus lymphohaematogenous dissemination.⁴ Begins in the marrow space of temporal bone, within tympanic membrane, within mucosa of middle ear and mastoid air cells. Poorly digestible lipopolysaccharide coat leads to granuloma formation. Multiple tubercles disintegrate within tympanic membrane which leads to multiple perforations which coalesce to form large central perforation. Ossicular chain erosion and fallopian canal erosion can also occur.

Facial palsy is present in 10-20% of cases. Hearing loss out of proportion to otological findings, absence of Otagia, and presence of complications such as facial nerve paresis in the absence of cholesteatoma must lead to a high index of suspicion of tubercular otitis media and start antitubercular drugs. Surgery is rarely required. Usually reserved for patients with subperiosteal abscess, facial nerve paralysis, and bony sequestration.⁵ Differential diagnosis – Wegener's granulomatosis, Histoplasmosis, Syphilis, Lymphoma, and Cholesteatoma.

4. Conclusion

Tubercular otitis media is difficult to diagnose with diverse symptoms and signs. As bacteriological assessment is usually insensitive, biopsy for histopathological examination is necessary to confirm the diagnosis. Imaging of temporal bone is important to know the extent of involvement. High index of suspicion of tubercular otitis media with appropriate evaluation plays crucial role to prevent the complications.

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