

Case Report

An Unusual case of Tuberculous otitis media (TB otitis)

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Abstract

We herein report a case of rare disease, Tuberculous otitis with unusual presentation, radiographic and pathologic findings. The granulations and bone erosion were extensive. He also developed extensive cold abscess in the pre-auricular region and rapid regrowth of granulations in the ear after mastoid exploration before starting anti TB treatment.

Key words: tuberculosis, otitis media.

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Introduction

Tuberculous otitis media is a rare disease. Certain characteristic features have been described in ears with TB otitis. The diagnosis is usually delayed due to low prevalence and other factors. The complications are similar to cholesteatomatous ear disease. In contrast to cholesteatoma, treatment is non-surgical.

Case report

A 54 years old unmarried male, a postman with diabetes mellitus(DM) presented to National hospital of Sri Lanka with right sided otorrhoea of 2 months' duration. He had moderate ear pain and hearing loss but did not have vertigo. There was no fever, anorexia or weight loss. He denied chronic cough or nasal symptoms. The patient is not aware of exposure to tuberculosis.

He was an averagely built ambient person. There was a large reddish polyp in the right ear almost coming out of the external auditory meatus. Hearing was low. The pure tone audiogram showed a mixed hearing loss with a bone conduction average at 45dB and air conduction at 90dB. The facial nerve was intact and the left ear was completely normal. Cervical lymph nodes were not enlarged. There was no swelling in the face. The respiratory system and nasal examination were also normal. A BCG scar was seen in left arm. A Biopsy of the polyp showed it to be inflammatory with neutrophil predominant mixed inflammatory infiltrate and vascular proliferation.

The ESR was over 100 mm/1st hour repeatedly. Total leukocyte with differential counts were normal. Disease response was poor with topical and systemic antibiotics along with steroids. A contrast enhanced CT scan showed 'soft tissue with contrast enhancement filling the right ear canal extending into the infratemporal fossa to involve the medial pterygoid and into subcutaneous tissues. Anteriorly it extended deep to the zygomatic arch. The Lateral pterygoid muscle is spared'.

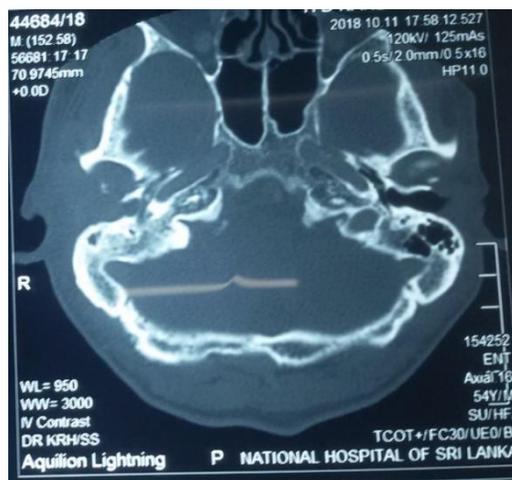


Fig 1. Axial CT window shows soft tissue filling the EAC, middle ear and mastoid

'A Soft tissue density material was seen in the middle ear and mastoid. The Tympanic membrane was not separately identified from the soft tissue in the External Auditory Canal (EAC). The Ossicles were normal. There was no erosion of the scutum or intracranial extension. The temporomandibular joint(TMJ) was not involved. The conclusion was right otomastoiditis. The Left side was normal.

A Right side modified radical mastoidectomy was performed. The soft tissue was seen filling the ear canal. The inferior, posterior and anterior bony walls of the EAC was eroded. The lesion was extending almost close to the TMJ. Middle ear and superior part of the mastoid had granulations. Tympanic membrane (TM) was absent. The Incus was eroded. All the soft tissues and granulations were removed except in the stapes area and the TM was not grafted. Histological assessment did not show granulomas. There was no facial nerve palsy, vertigo or other immediate complications after surgery.

Because of its unusual nature, Mantoux test was ordered and became positive (17mm). Awaiting Acid fast bacilli (AFB) and TB culture, the patient was discharged home but admitted after 10 days with a collection in the post-aural area and profuse mucoid ear discharge which was managed with drainage and antibiotics.

There was a heavy load of acid fast bacilli in the samples. Chest X ray was normal. Awaiting TB culture report, patient was referred for anti-tuberculous treatment but the patient defaulted.

One month later he presented with large collection in the pre-auricular region and granulations filling the entire EAC and mastoid. Ultrasound scan confirmed the collection. On both admissions, patient did not have pain or fever. The collection was drained and anti TB therapy was started. The otorrhoea improved and patient was discharged when the ear and pre-auricular abscess were dry (10 days).



Fig 2. Cold abscess in right side of face after defaulting treatment

Discussion

Tuberculous otitis (TB Otomastoiditis) accounts for less than 1% of chronic otitis media ^[1]. Most individuals are less than 15 years old. Men show predilection over females. The index patient is 54 years old but his occupation as a postman has a higher potential of exposure to TB, as well as being a diabetic might have made him susceptible.

The responsible organism is *M. tuberculosis* but other non-tuberculous mycobacteria may cause a similar picture. Many routes of spread to the ear have been described; through nasopharynx and Eustachian tube, haematogenous in disseminated disease, direct spread through a perforation, contiguous spread from intra or extra cranial sites.

In a large proportion, concurrent pulmonary involvement is also identified. This patient did not have other system involvement. Constitutional symptoms are less prominent if other systems are not involved. The granulations of TB otitis are generally pale in colour as opposed to reddish granulations seen in this patient. The biopsy did not show granulomas which is characteristic. Rapid regrowth of granulations may resemble a malignancy. Other characteristic appearances of TB have been described ^[1]; multiple perforations and thickened Tympanic membrane (TM), non-healing mastoid cavities, painless watery otorrhoea, facial palsy with tubo-tympanic disease, disproportionately severe conductive hearing loss. The CT findings are nonspecific but diffuse temporal bone involvement is seen in reported cases as in this patient. The risk of facial nerve palsy, sensorineural hearing loss and peri-auricular fistula is higher than in cholesteatoma ^[2].

The diagnosis may get delayed in most cases especially in areas with less incidence. PCR and TB culture are the gold standard for diagnosis and the Mantoux test is positive in 94% of cases. The number of acid fast bacilli is less compared to sputum so that a fluid sample from ear may not show acid fast bacilli ^[3]. A Common practice of using neomycin and ciprofloxacin topical treatment may lead to false negative TB culture.

The treatment is anti TB therapy for 9-12 months. It will take 2-3 months for ear to get dry. Place for surgery is minimal and controversial even in complicated disease. Here the surgery was done in the absence of diagnosis. Patient is currently being followed up at our clinic

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