

**Astoiditis in Children: Report of Rare Case**

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**Abstract:** Tuberculosis (TB) remains a major health concern in developing countries. In children, approximately 85% of reported cases are limited to the lung; the remaining 15% involve only extra-pulmonary or both pulmonary and extra-pulmonary sites. Tuberculous otitis media with otorrhoea is extremely rare, accounting for 0.05-0.9% of chronic infections of the middle ear. Tuberculous mastoiditis is rare manifestations. They represent less than 0.1% of all chronic suppurative otitis media. We present here a case report of tuberculous mastoiditis which underlines some of the diagnosis difficulties and potential complications.

**Keywords:** Tuberculosis, otorrhoea, tuberculous mastoiditis.

**INTRODUCTION**

Tuberculous mastoiditis are rare manifestations. They represent less than 0.1% of all chronic suppurative otitis media. The early diagnosis of tuberculosis otomastoiditis is not easy because of its low prevalence, ambiguous clinical signs, and false-negative culture. There is frequently a considerable delay before diagnosis, which can lead to irreversible complications.

**CASE REPORT**

We report the case of a 4 year-old child who had chronic left logorrhoea from the age of 1 year. The evolution was marked by the appearance 15 days ago of a left retro auricular mass having increased rapidly in volume, painless without facial paralysis nor vertigo nor fever.

The mass was fluctuant to palpation, covered with warm reddish skin. The otological examination found a polyp which filled the whole of the external auditory canal with purulent secretions. CT scan of the temporal bones showed left middle ear filling cavities associated with irregular destruction in mastoid air cells and bony sequestrum, but no intracranial expansion (Figure 1). The child underwent mass drainage and received venous antibiotic therapy. Then, a left

mastoidectomy was performed. Granulomatous inflammation of mastoid mucosa was found and a bony sequestrum was removed (Figure 2). Histological examination of the resected material revealed the presence of a tuberculous granuloma with gaseous necrosis, confirming the diagnosis of tuberculous mastoiditis. The clinical outcome was favorable after antitubercular therapy.



**Fig-1: CT in Axial section reveals bone destruction and clouding of the left mastoid bone**



**Fig-2: Preoperative image shows granulomatous inflammation of mastoid mucosa and bone lysis**

## DISCUSSION

The occurrence of tuberculosis of the middle ear has decreased to 0.04% of all cases of chronic suppurative otitis media [1] due to better hygiene, improved laboratory facilities, BCG vaccination and a variety of specific drugs [6]. Tuberculous mastoiditis may occur as a result of haematogenous or lymphatic spread or by extension into the mastoid and the middle ear through the eustachian tube [1-3,5,7].

Tuberculous mastoiditis should be suspected when usual treatment is not producing desired results with painless otorrhea, multiple tympanic membrane perforations and facial paralysis [4]. Other findings associated with tuberculosis of the mastoid include the presence of caseous material and granulation tissue seen on otoscopy [6,8]. Perforation of the tympanic membrane is one of the common features and may be single or multiple [8].

The temporal bone CT findings may include destruction of the ossicles, sclerosis of the mastoid cortex, or opacification of the middle ear and mastoid air cells, which are seen on chronic otomastoiditis. Sclerosis of the mastoid is denser and more widespread in the case of tuberculous otomastoiditis than in chronic otomastoiditis of other cause. [9] However, the relatively high incidence of normal cellular development of mastoid bone has been noted in other studies [10 11] and seems to be a significant finding.

Anti-Tubercular therapy is the mainstay of treatment and has to be started early to avoid serious complication. The indications for surgical intervention include cases unresponsive to medical therapy and managing complications of extensive disease such as facial palsy and removal of sequestrum and improve drainage [12]. Recent studies have demonstrated that higher rates of dry ear are achieved when surgery precedes chemotherapy, as compared to chemotherapy alone [13]

## CONCLUSION

Tuberculous mastoiditis is a rare clinical manifestation but potentially dangerous. The diagnosis is difficult due to unspecific and variable presentations. In otologic infections when imaging results show significant destruction of mastoid air cells and presence of bony sequestrum, tuberculous mastoiditis should be suspected. The definite diagnosis is histological and prompt treatment can prevent ear damage and complications.

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