

Tuberculous Otitis Media with Facial Palsy: A Case Report

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A case of tuberculous otitis media with facial palsy in a 4 ½ years old girl from a remote area of Nepal is presented. She was seen in the Department of ENT and Head and Neck Surgery, T.U. Teaching Hospital, Kathmandu, Nepal. She underwent emergency mastoid exploration under general anesthesia. Per operatively a cheesy material over many parts of middle ear cleft and bony sequestrum were found and they were removed. Likewise one of the cervical lymph node presented in the ipsilateral preauricular region was also excised and sent for histopathological examination, which revealed tuberculosis in all the specimens. The child was managed with antitubercular therapy (category-1). A brief review of literature is also included.

INTRODUCTION:

Tuberculosis is one the major infectious diseases with predominant involvement of lung and lymph nodes.¹ It is one of the commonest infectious diseases of developing countries including Nepal. It rarely affects the middle ear. True incidence is difficult to assess as the large reported series is from hospitalized subgroups with established tuberculosis. Early diagnosis and prompt treatment may prevent ear damage and other local and systemic complications.



Fig.1: Showing grade IV facial palsy

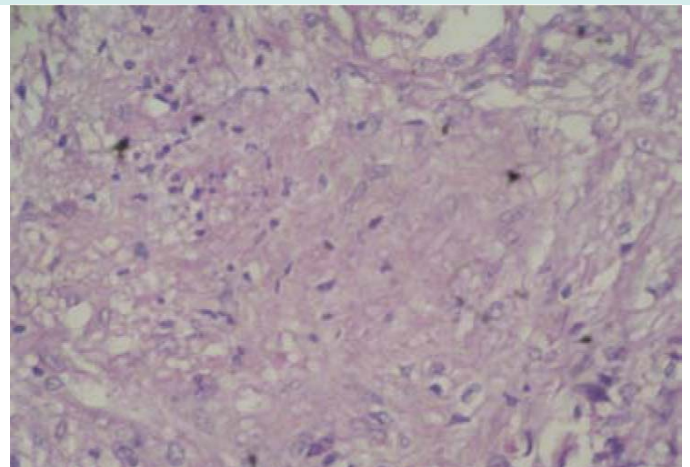


Fig. 2: Histopathological slide of the child showing caseous necrosis (40xHPF)

CASE REPORT:

A 4 ½ years old girl from a remote area of Nepal presented to Department of ORL and Head and Neck Surgery, T.U. Teaching Hospital, Kathmandu, Nepal with history of left ear discharge of 5 months duration and facial palsy of 3 months duration. There was no earache, pre or post auricular swelling or fever. There was no history of tuberculosis in the past. Neither there was similar history in the family or any contact with tuberculosis. On examination, the child was well nourished and was afebrile. Otoscopic examination revealed cheesy material in posterior superior quadrant and attic region of tympanic membrane which was quite confusing with cholesteatoma. There was grade four infranuclear lower motor neuron type of facial palsy on left side along with cervical multiple matted lymph nodes (Fig.1). Her systemic examination as well as x-ray chest and preoperative investigations were normal. She underwent emergency mastoid

exploration under general anesthesia. Per operatively a cheesy material over many parts of middle ear cleft and a bony sequestrum pressing the second genu of the facial nerve was seen. Lymph node biopsy of ipsilateral preauricular region also revealed cheesy material. Initial provisional diagnosis of congenital cholesteatoma was changed peroperatively as tuberculous otitis media. Histopathological examination of cheesy material, sequestrum and lymph node were reported as tuberculosis (Fig.2). The child was managed with antitubercular therapy (category-1) which included 4 drug regimen in first two months (Isoniazid, Rifampicin, Pyrizinamide and Ethambutol) followed by 2 drug regimen in later 4 months (Isoniazid and Rifampicin). Postoperative period was uneventful and was discharged on 10th postoperative day. Follow up after 2 months revealed a dry and healthy mastoid cavity and facial nerve recovered to grade II.

DISCUSSION:

Primary tuberculosis of the ear has rarely been reported, and the disease is usually secondary to infection in lungs, larynx, pharynx and nose.^{2,3} In preantibiotic era, 2-8% of all the cases of chronic suppurative otitis media were tuberculous in nature and infants less than 1 year of age comprised 50% of these.⁴ Tuberculosis involving tympanic membrane is usually secondary to pulmonary tuberculosis, spreading through the Eustachian tube, most often by the forceful expulsion of haemoptysis and infected blood into the tympanum.⁵ The condition usually begins as an apparent serous otitis media. Infection can also reach the middle ear via external auditory canal or by haematogenous spread.⁵ The latter results in the direct involvement of the mastoid bone producing necrosis, sequestrum and it may progress to involve middle ear tuberculosis of middle ear is usually seen in association with or secondary to pulmonary tuberculosis. It is characterized by painless otorrhoea, multiple tympanic membrane perforations, abundant granulation tissue and bone necrosis.⁶ There may be multiple perforations in the early stages, but they coalesce into a total tympanic membrane perforation accompanied by a pale granulation tissue.⁴ The hearing loss tends to be greater than expected. In our case, there was a large central perforation along with cheesy material in posterior superior quadrant and attic region which was quite confusing with cholesteatoma. The large central perforation might be due to coalescence of multiple perforations as the presentation of this patient was quite late. The diagnosis of tuberculous otitis media is based on demonstration of acid fast bacilli within granuloma in biopsy materials, with or without the culture of mycobacterium tuberculosis from the biopsy, aural discharge or aspirate of the middle ear.¹ Diagnosis is made from direct smear examination and culture of discharge, histopathological examination and polymerase chain reaction of discharge from

middle ear. In our case, there were cheesy materials covering the most parts of middle ear cleft. There was sequestrum of 1x1cm pressing the second genu. Histopathological examination of cheesy material, sequestrum along with cervical lymph nodes were done separately and all three samples revealed tuberculosis. Surgery may be required in some cases of tuberculous otitis media to remove sequestra and improve drainage.⁷ We explored the mastoid under general anesthesia to prevent further complication, to release facial nerve compression and to confirm the diagnosis. When surgery is combined with adequate chemotherapy, there is a good chance of healing with a dry ear with a good prognosis.⁸ Facial nerve palsy has been reported in cases of tuberculosis otitis media even if the anti tuberculosis therapy has been started. In our case, there was already grade IV facial nerve palsy. Recently, the role of surgery has been revised. In the past, it was done to provide drainage, to control spread to central nervous system and to relieve facial paralysis. The advent of specific chemotherapy has challenged all this, and today surgery should be reserved for decompression of the facial nerve and for removal of necrotic material which might provide a nidus for the organism to remain out of reach of anti tuberculous therapy. Tuberculous otitis media if left untreated, can damage middle ear and other surrounding structures. It should be considered in differential diagnosis of chronic middle ear discharge that does not respond to usual therapy. Delay in diagnosis can lead to complications as seen in our case. This child came late to our hospital (after 5 months), because the child was seen by physicians and pediatricians many times. A high level of clinical suspicion is needed for early diagnosis and antitubercular therapy should be started as soon as possible to prevent the possible complications.

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