

Tuberculosis of Squamous Temporal Bone Resulting in Sigmoid Sinus Dilatation: A Rare Case

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Abstract: Tuberculosis of squamous temporal bone is very rare. We present here a case of 42 year of female with TB of squamous temporal bone with erosion of complete bone with secondary sigmoid sinus dilatation. Patient was treated with medical line of management by oral anti-tubercular drugs.

Keywords: Tuberculosis, Squamous temporal bone, Sigmoid sinus dilatation.

INTRODUCTION

Tuberculosis is an endemic disease of South East Asia. Extra pulmonary tuberculosis involving bone is relatively less prevalent than pulmonary and lymphadenopathy involvement. Spine is the most common site of affection of tuberculosis in bony region[1]. TB of squamous temporal bone without any other bone involvement is rare. Hereby, we present a case of TB of squamous temporal bone presenting as post-auricular swelling with sigmoid sinus dilatation which was discovered on CT brain and would have detrimental if incision and drainage would have been attempted.

CASE REPORT

A 42 year old lady presented to the outpatient department of E.N.T with a history of right posterolateral neck swelling for 3 months along with right postauricular swelling for 2 months. Both the swellings were progressively increasing in size. The postauricular swelling was associated with mild pain, however there was no history of any pain in the neck or associated torticollis. The postauricular swelling was fluctuant with no tenderness. On enquiry, the patient gave a history of mild fever in the evening associated with loss of weight and appetite for the past 3 months. The patient gave a history of attempted aspiration from the postauricular swelling in a private hospital. However the aspirate did not yield any purulent material and the aspirate was only haemorrhagic. The patient had a history of right sided tuberculous pleural effusion 25 years back for which she had taken 6 months of Anti-tubercular treatment and had completed her treatment and declared cured. There was no history of any earache, ear discharge, reduced hearing or recurrent episodes of upper respiratory tract infection. There was no history of severe headache associated

with high grade fever, altered sensorium, giddiness, neck rigidity, loss of consciousness, facial asymmetry. There were no associated comorbid conditions like diabetes mellitus, hypertension, asthma, jaundice, hypo or hyperthyroidism. On examination, there was a soft to firm right postauricular swelling 4 x 2.5 cm in size with the overlying skin being stretched and shiny. No warmth or pulsations felt over the swelling. Examination of the neck swelling revealed multiple, firm matted lymph nodes on the right side of the neck level V with the skin over the swelling absolutely normal with no evidence of any scars or sinuses.



Fig. 1: Postauricular swelling

Fine needle aspiration cytology from the cervical swelling did not show any evidence of necrosis, granuloma or malignancy. USG of the postauricular region showed a 16 cc of collection in the postauricular region. USG of the neck revealed multiple enlarged necrotic lymph nodes at level V and a few subcentimetric lymph nodes at level Ib and level II.

Chest X ray revealed sequelae of old tuberculosis. USG of the chest showed mild pleural effusion with pleural thickening on the right side of the chest.

CT scan of the brain and the temporal bone revealed erosion of squamous temporal bone with focal reactionary sclerosis. The osteolysis had resulted in complete temporal bone defect but the periosteum was intact. Due to absence of the lateral shelf of bone, the sigmoid sinus had dilated causing lateral shift of periosteum. Due to this sigmoid sinus dilatation, the aspirated was haemorrhagic.



Fig. 2: CT brain showing dilatation of sigmoid sinus due to erosion of squamous temporal bone

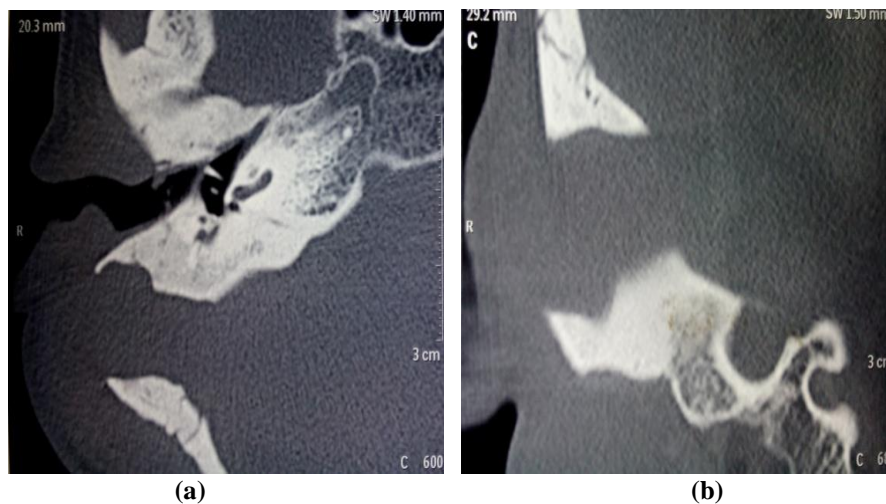


Fig. 3: HRCT temporal (a) axial section (b) coronal sections; showing complete destruction of squamous temporal bone.

The excision biopsy of the cervical lymph node was done which showed the presence of necrotizing granulomatous inflammation but no acid-fast stained bacteria was seen. The material from the lymph node and the post-auricular swelling for send for BACTEC and gene expert studies which showed presence of mycobacterium tuberculosis. Patient was started on category II anti-tubercular treatment having initial aggressive phase of streptomycin injectibles with oral isoniazid, rifampicin, pyrazinamide and ethambutol (SHRZE) followed by six month of isoniazid, rifampicin and ethambutol. The swelling was completely reduces and a postauricular bruit could be auscultated. The cervical lymphadenopathy completely regressed.

DISCUSSION

Mycobacterium tuberculosis is the acid fast bacillus which is an epidemic in south-east asia. It causes granulomatous inflammation which is charactersticly necrotizing. Similar histo-pathology is seen in Wegner's granulomatosis. It presents with

generalized symptoms like fever, generalized weakness and weight loss. It may further involve any system with pulmonary system being the most common system to be affected. In the temporal bone, TB generally affects petrous temporal bone causing tubercular otitis externa, otitis media and skull base osteomyelitis[2]. Squamous temporal bone is rarely affected in tuberculosis and is least suspected as diferential of post-auricular swelling in absence of affection of middle ear cleft.

Temporal bone tuberculosis generally present as a long standing infection which tend to resilient to oral antibiotics and may also develop non healing discharging fistula. There are rarely signs of bacteremia or sepsis.

The gold standard of diagnosis is to take the biopsy from representative areas like pale granulation and marginal zone of necrotic and inflamed tissue which will reveal necrotizing granulomatous inflammation with or without acid fast stain bacilli[3].

In most of the specimen, acid fast bacilli are not visualized, hence TB bacilli culture or DNA PCR can be resorted to. These facilities may not be available in rural areas, hence in areas of endemicity, anti-tubercular treatment can be started empirically after explaining the patient the pros and cons of this line of management[4].

Tubercular bacilli have an ability to cause bone destruction due to enzymatic osteolysis of the cortical bones. It is relatively a gradual process and hence, causes reactive sclerosis of the surrounding bone[5].

The best line of management is anti-tubercular drugs followed by sequestrectomy if required. In Indian set up, we use anti-tubercular regime as laid down by the national programme consisting of combination isoniazid, rifampicin, pyrizinamide and ethambutol for two months followed by isoniazid, rifampicin and ethambutol for 4 months.

CONCLUSION

Tuberculosis of squamous temporal bone is very rare and as in our case, the bone was completely

eroded giving rise to sigmoid sinus dilatation where it could have been detrimental to do incision and drainage of the swelling as it would have resulted in massive haemorrhage. Anti-tubercular treatment with standard regime is sufficient for the management and surgical exploration should be reserved for sequestrum only.

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