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Case Report OPEN ACCESS

Extra Pulmonary Tuberculosis (A Rare Presentation of Palatine Tonsils and Posterior Auricular Lymphadenopathy) : A Case Report

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ABSTRACT

Tuberculosis(TB) of tonsils is an extremely rare variety of extra pulmonary TB (EP-TB) frequently simulating tonsillar malignancy especially in the elderly. Chronic or recurrent tonsillitis with enlarged tonsils and sore throat is usually the main clinical presentation especially in children (Das A et al 2015),(Chang J et al 2019),(Moisa SM et al 2021).

Histological diagnosis is mandatory for diagnosis . Anti-tuberculous chemotherapy is adequate for its complete resolution.

Here we report a rare case of primary tonsillar TB with solitary posterior auricular lymphadenopathy with histopathologic diagnosis made after tonsillectomy and excision biopsy.

Patient was immunocompetent and thorough evaluation excluded pulmonary and systemic TB .

Key Words: *Extra Pulmonary,Posterior auricular lymphadenopathy , Tonsillectomy ,Tonsils , Tuberculosis.*

INTRODUCTION:-

Tuberculosis (TB) is an airborne disease caused by Mycobacterium Tuberculosis that primarily affects lungs but can affect other parts of the body. TB remains widespread across the world but mostly prevalent in Southeast Asia and Africa (Das A et al 2015),(Chang J et al 2019),(Moisa SM et al 2021).

Extra Pulmonary TB (EP-TB) is seen in about 10-15% of all TB among which lymph nodes are the most common site followed by pleura (Chang J et al 2019) .Primary TB involving the head and neck is extremely rare accounting for 1-2% of cases outside pulmonary TB and 0.1 – 1% of other forms of TB . Primary Tonsillar TB is an even rarer clinical entity and may often be mistaken for malignancy (Das A et al),(Chang J et al 2019),(Moisa SM et al 2021),(Dhanasekar et al 2020) .

In the pre-pasterisation era, incidence of of tonsillar TB was relatively high due to Mycobacterium bovis infection through ingestion of unpasteurised milk but the incidence reduced to almost zero with advent of pasteurisation and effective anti-tuberculosis chemotherapy.

Secondary form of tonsillar TB is more common than the primary form due to emergence and increasing incidence of human immunodeficiency virus (HIV)infection and drug resistance (Das A et al 2015), (Chang J et al 2019).

Case Presentation:-

N.B. was a 12-year old who resides with his parents , he presented to our Paediatric ORL clinic with one year history of recurrent sore throat associated with pain and difficulty in swallowing, having about 1-2 episodes monthly. There was low grade intermittent fever,however no chocking spells, hoarseness or difficulty with breathing. No history of cough or weight loss. There was history of painless, slow growing posterior auricular swelling on the right side. No swelling on other parts of head and neck region. No other otologic or rhinologic symptoms .Past medical and family history were not contributory .

When examined , child was healthy with stable vital signs.
Oral examination revealed Brodsky grade 3 tonsils bilaterally with exudates. Posterior pharyngeal wall appeared normal and there was no evidence of cervical lymphadenopathy. Post-auricular mass measured 3cmx 3cm ,firm , non-tender, no differential warmth and was freely mobile. There were no other swellings on any part of the body . Ear and nose examination was essentially normal .
Investigations done included complete blood count with Hb 11.8g/dl, WBC 5.5x10^9 which were all within normal range.
The child had Tonsillectomy for a clinical diagnosis of Recurrent Tonsillitis and post-auricular mass excision.
Histo-pathological examination showed variable sized lymphoid follicles surrounded by fibrotic stroma with foci of Granulomatous Inflammation(see Figure 1). The sections of the post-auricular mass shows partial effacement by areas of necrosis surrounded by Granuloma with multi-nucleated giant cells(see Figure 2).

Figure 1: Shows granuloma composed of central caseous necrosis (blue arrow) surrounded by multinucleated giant cells and fibrosis (yellow arrow) and remnant lymphoid parenchyma (red arrow). Hematoxylin and Eosin x400

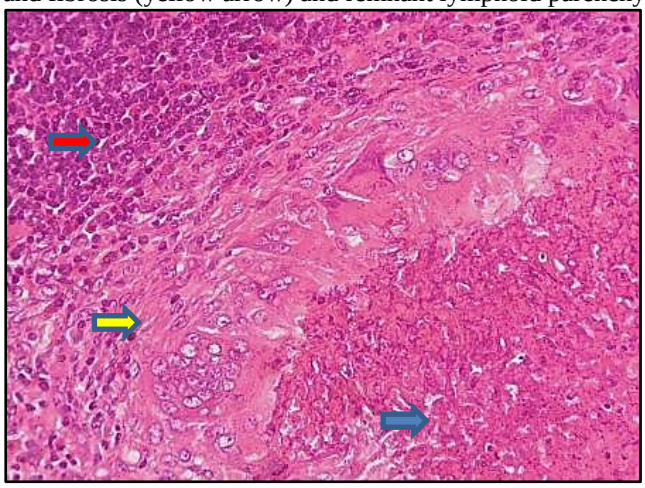
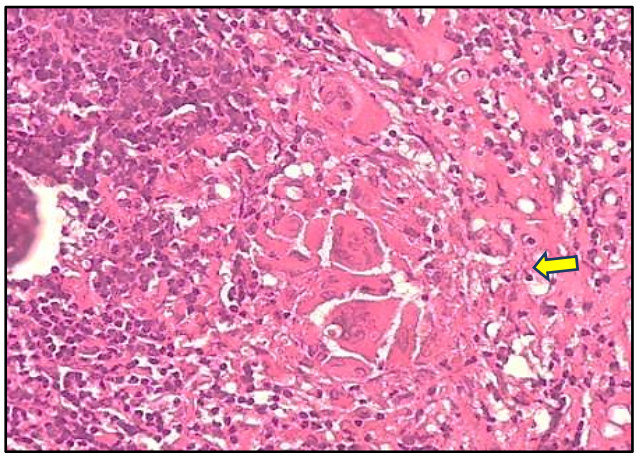


Figure 2: Shows a lymphoid follicle partially effaced by granuloma composed of histiocytes, multinucleated giant cells and fibrosis (yellow arrow). Hematoxylin and Eosin x400



Further evaluation was done which revealed a normal chest xray , erythrocyte sedimentation rate (ESR) was 20mm/hr, Mantoux was 0mm after 48hrs and Gene Xpert was also negative. He was also sero-negative for HIV 1and 2 infection .

DISCUSSION:-
Tuberculosis of the tonsils may be a primary or secondary infection with primary infection caused by ingestion of Mycobacterium bovis from unpasteurized milk and secondary infection commonly due to inhalation of tubercle bacilli, haematogenous spread harbouring bacilli in Waldeyer's ring or self-inoculation of infected bronchial secretions . Irwin Moore further classified primary as being without lung involvement and secondary with having sputum smear positive pulmonary TB (Das A et al 2015), (Bakare B et al 2020).Secondary infection is usually commoner and hence patients with EP-TB must be investigated to exclude pulmonary or systemic TB.
The most common site of EP-TB is the cervical lymph node which has been reported to constitute more than 90% in most studies (Chang J et al 2019), (Bakare B et al 2020),(Nalini B et al 2006). The larynx has been reported as being the commonest affected site in the upper respiratory tract varying between 1-2.9% in different studies. TB of the oral

cavity is relatively uncommon , though the tongue and palate are more prevalent sites with the tonsil rarely being involved in less than 1% of cases (Ricciardiello et al 2006), (Alto FA et al 2005).

The low incidence of primary tonsillar TB has been attributed to the antiseptic action of saliva and presence of saprophytes in the oral cavity making colonization of tubercle bacilli difficult . Also , the stratified squamous epithelium of the tonsils provides resistance to colonization of these bacilli and the tonsils is also inherently resistant to TB .

Increasing EP-TB affectations of the head and neck have been attributed to the traditional risk factors of immigration , poverty , immunodeficiency and drug addiction. Other predisposing factors include poor dental hygiene, recent tooth extractions , periodontitis and leukoplakia (Das A et al 2015), (Ricciardiello et al 2006), (Alto FA et al 2005). There is no age or sex predilection.

Sore throat is the most common presentation of primary tonsillar TB. The other features of asymmetry or enlarged unilateral tonsil with or without exudates , ulcerations or masses frequently simulates tonsillar malignancy especially in adults or elderly patients which is only distinguishable by histopathological examinations . The few cases of primary tonsillar TB described were easily mistaken for chronic or recurrent tonsillitis with similar clinical appearance and symptoms ; hence it was treated accordingly by Ear, Nose and Throat (ENT) specialists by tonsillectomy and diagnosis was made by histology (Sasikumar S et al 2018),(Mocanu AI et al 2022). The same scenario was enacted in this index case with histological diagnosis made after surgery necessitating further evaluation to exclude pulmonary or systemic TB . Some studies have reported more than 50% of diagnosis based on tonsillectomy specimens . Our patient did not exhibit any symptoms suggestive of primary TB and so was not tested prior to surgery.

Cervical lymphadenopathy was reported as the commonest presentation of EP-TB especially in chidren and young adults with the posterior triangle group most commonly affected in upto 65% of cases . Other unusual lymph node affectation has been reported in elderly patients like the submandibular and supra clavicular group (Nalini B et al 2006),(Mocanu AI et al 2022), (Barman S et al 2014) . Factors like immunosuppression and systemic involvement being attributed to this finding. Our patient presented with posterior auricular lymph node which is a very rare occurrence in primary TB and he was immunocompetent with no evidence of systemic disease . Findings of posterior auricular lymph node are more common in infections affecting the ear ,salivary gland or Rubella. Review of literature has largely not revealed explanations for this finding .

Histopathological diagnosis confirmed more than 95% of primary tonsillar TB and medical treatment (anti-tubercular drugs) was administered to all cases with complete resolution . A standard period of treatment for primary tonsillar TB has not been established but treatment strategies based on that for pulmonary TB were generally found to be effective unlike in other cases of EP-TB like joints and bone marrow which require long term anti-TB regimen (Das A et al 2015), (Anim JT et al 1991), (Manolidis S et al 1993) .Our patient also received standard therapy of 6 months and made a full recovery.

CONCLUSION:-

Primary tonsillar TB is rare and may exist without signs and symptoms suggestive of TB making it pertinent to be considered in cases of persistent tonsillitis especially in countries with high prevalence of the disease . The fact that TB can manifest in virtually any organ poses several diagnostic challenges and as the disease continues to be prevalent , we may yet continue to see rare variants of presentation.

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