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Parotid Tuberculosis Following Eyelid Tuberculosis in Immunocompetent Patient

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Abstract
Parotid tuberculosis and eyelid tuberculosis are rare Extra-pulmonary forms of tuberculosis especially in immunocompetent individual. Here, we report tuberculosis of the parotid gland in a 33 year old female who had eyelid tuberculosis on left side which was operated and treated with anti -tubercular therapy as per revised national tuberculosis control program. She presented with diffuse swelling on right parotid area. Fine needle aspiration cytology was suggestive of tuberculosis. She improved with a full course of anti-tubercular regimen of two months intensive phase with rifampicin, isoniazid, ethambutol and pyrazinamide followed by four months continuation phase regimen with rifampicin, isoniazid, and ethambutol.
Keywords: *parotid tuberculosis, eyelid tuberculosis, Fine needle aspiration cytology.*

Introduction

Tuberculosis of the parotid gland and eyelid are rare form of primary tuberculosis especially in the era of antitubercular drugs. Now days these entities are usually present in immunocompromised patient. Salivary glands are relatively resistant to any infection due to antibacterial activity of saliva and continuous flow of saliva.[1] Parotid swelling mimics as pleomorphic adenoma so high degree of suspicion is needed for clinical diagnosis of tubercular etiology which can be confirmed by image guided fine needle aspiration cytology (FNAC).

Case Report

33 year old female presented with complaints of swelling over right parotid area for 6 months. This swelling was insidious in onset and gradually progressing in size.

Swelling was not painful. No history of significant fever. History of loss of appetite and weight loss of around 10 kg in last 6 months was present.

A year ago, she had nodule of size 8 × 12 mm on lateral part of upper eyelid of left eye which was removed and histopathology was reported as necrotizing epithiloid granuloma suggestive of tuberculosis. ATT was given for 6 months as per RNTCP guideline. After complete course of treatment there was no recurrence.

Patient is not known to have diabetes or kidney disease

On examination there was diffuse swelling of size 4 × 3.0 cm over right parotid area extending below both ear pinnas, firm in consistency, non-tender, non-mobile [Figure 1]

Systemic examination was normal.

Chest X ray were normal limits. High-resolution sonography of the parotid region revealed a low level echo complex mass in superficial lobe of right parotid (size 25 × 6.3 mm) with no calcification or cystic degeneration, suggestive of inflammatory mass [Figure 2].

FNAC from right parotid gland showed numerous epithiloid granulomas with giant cells with central necrosis [Figure 3a & 3b]. AFB stain was negative. Mantoux test was positive with in duration diameter 15mm. on the basis of above clinical background and cytology, diagnosis of Tubercular Parotitis was made. Anti tubercular drugs were started as per RNTCP guidelines. ATT was given for 6 months and following treatment her swelling subsided completely [Figure 4], she gained 10 kg weight and symptomatically improved.

There was no recurrence of the swelling at follow up at 3 months.

Figure-1: Right parotid swelling before treatment.

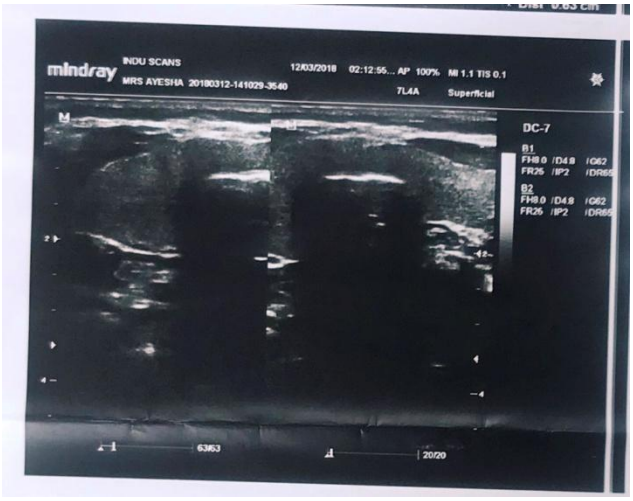

Figure-2: High-resolution sonography of the parotid region revealed a low level echo complex mass in superficial lobe of right parotid (size 32 × 17 mm) with no calcification or cystic degeneration.

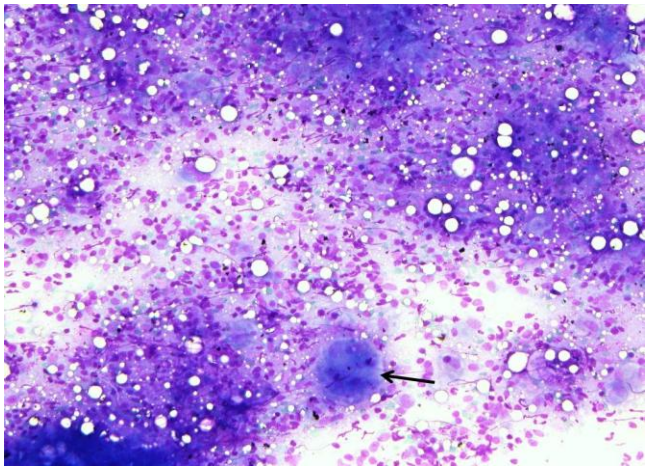

Figure-3 (a): Aspirate from parotid showing numerous reactive lymphoid cells and scattered giant cells (arrow). MGG, x100

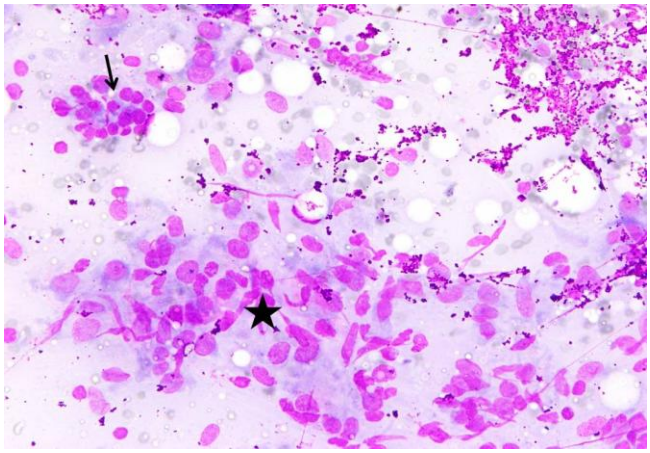

Figure-3 (b): Aspirate from parotid showing an epithelioid cell granuloma (asterix) and a collection of unremarkable salivary duct epithelial cells (arrow). MGG, x200

Figure 4: Resolution of parotid swelling after ATT

Discussion

Tubercular parotitis is a rare cause of extra pulmonary tuberculosis. As per World Health Organization (WHO) global tuberculosis report (2015), around 10% of extrapulmonary Tuberculosis isin head and neck region. Involvements of salivary glands are very rare and Parotid tuberculosis constitutes 2.5%–10% of salivary gland tuberculosis.[2]

Parotid is the largest salivary gland and salivary gland is relatively resistant to tubercular infection as continuous flow of saliva prevents stagnation and multiplication of bacilli in gland. Saliva also has antibacterial activity by the thiocyanate ions and lysozymes.[1]

Tuberculosis of parotid gland is most commonly seen in middle age group between 20- 50 years, but it can also involve pediatric age group as reported by Nag et al[3] in 13 year old female and also can involve geriatric age group as reported in 83 year old female by Demirci GT at al.[4]

Exact mode of infection to parotid gland is not known but theoretically it can reach the gland by haematogenous spread from distant site, ascending infection from cervical lymph node or reactivation of primary tuberculosis.[5]in our case probably it was reactivation of primary tuberculosis as patient also had reactivation of primary tuberculosis of eyelid two years back. Demirci GT et al[4] also reported a case of parotid tuberculosis which was associated with cutaneous tuberculosis on a medial epicanthus; they demonstrated AFB in culture from biopsy sample taken from skin over parotid area. Primary tuberculosis is not uncommon in parotid area in immunocompromised patient. Willenborg KM et al[6] reported a case of parotid tuberculosis in 35 year old HIV patient.

Parotid swelling can present as localized mass, diffuse gland enlargement in case of acute sialadenitis, abscess or rarely as periauricular fistula.[7] In our case there was diffuse gland enlargement on right side.

Most common cause of parotid swelling is pleomorphic adenoma so diagnosis of tubercular etiology requires high degree ofsuspicion like absence of draining lymph node especially in tuberculosis endemic area.[8]

Ultrasound is imaging tool of choice for screening any parotid swelling as it can show whether abnormality is there with in parotid gland or it is in periparotid area.[9] Other imaging like Computed tomography (CT scan) or Magnetic resonance imaging (MRI) should be done whenever required. Chest X-ray should be done routinely to rule out pulmonary tuberculosis.

Image guided fine-needle aspiration cytology (FNAC) is simple, minimally invasive procedure that is screening tool to exclude tuberculosis or malignancy.[10] Molecular methods like cartridge based nucleic acid amplification test (CBNAAT) and Liquid AFB culture further increase sensitivity and specificity of diagnosis of tuberculosis.

In cases with high suspicion of malignancy or in scenario where FNAC is inconclusive; operative biopsy with histopathological examination is required as demonstrated by Mastronikolis NS[9] in his case of 35-year old woman with a six months duration right parotid lump with pre-operative diagnosis of pleomorphic adenoma which came as granuloma in histopathological examination.

Management of parotid tuberculosis is same as other forms of tuberculosis. Anti-tubercular drugs as per INDEX-TB GUIDELINES - Guidelines on

extra-pulmonary tuberculosis for Indiaare highly effective. Six months of treatment as 2 months intensive phase regimen (rifampicin, isoniazid, ethambutol and pyrazinamide) followed by continuation phase regimen (rifampicin, isoniazid, and ethambutol) is sufficient in treatment of parotid tuberculosis.[11]

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