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Tuberculosis In Parotid Gland: A Rare Case

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ABSTRACT: TUBERCULOSIS is a common disease caused by *M tuberculi.* overall 20-25% manifest as extrapulmonary TB example pleura, abdomen, kidney, bones, and lymph nodes. Less than 1 % incidence in India. Even in endemic countries parotid tuberculosis is very rare. Discussion:Extra pulmonary tuberculosis is common in the pleura, abdomen, genitourinary system. Even though tuberculosis is common in developing countries like India, salivary gland involvement is rare. The parotid gland is the most common salivary gland to be infected with mycobacterium. The clinical presentation varies from a localised indolent chronic swelling to an acute painful swelling Imaging techniques such as CT and MRI are sensitive but not specific. Ultrasound examination is the initial imaging technique for parotid gland evaluation. Chest radiography is mandatory for patients with symptoms of TB.Conclusion :It is symptomatically similar to neoplasm and non-existing symptoms of TB cause several difficulties. Parotid gland abscess caused by Tuberculosis is always comparable in diagnosis to a solitary mass.

INDEX : **PAROTID GLAND, RARE, IMAGING TECHNIQUES, TUBERCULOSIS,SWELLING(KEYWORDS)**

INTRODUCTION

Tuberculosis is a necrotizing granulomatous inflammation caused by *Mycobacterium Tuberculosis* with both pulmonary and extra-pulmonary manifestations. Approximately 20-25% of overall active tuberculosis cases manifest as extrapulmonary TB in pleural, abdominal, kidney, meninges, bone, and lymph nodes. Parotid gland tuberculosis is a rare form of extrapulmonary tuberculosis even in endemic countries like India with less than 1% incidence. Parotid tuberculosis clinically presents as a swelling with difficulty in differentiating from a neoplasm. A high index of suspicion is the key to diagnosing parotid tuberculosis. We are reporting a 21-year-old with parotid tuberculosis who was successfully treated with an anti-tubercular regimen.

Case Report

A 21-year-old male presented with swelling in the left parotid region for twenty-five days (Figure.1:shows Swelling of Parotid Region lateral view)(Figure.2 & 3 :shows Front view of Parotid Gland). The swelling was insidious in onset, rapid progression in size with trismus and numbness over the parotid region with a history of fever prior to the onset of swelling. He gives a history of significant loss of weight. He is a known case of Tinea corporis on treatment for three months. He gives no history of cough or family history of tuberculosis. He is moderately built and poorly nourished with tinea in the bilateral groin region. Local examination revealed a swelling of size 5*5 cm in the left parotid region which is mobile and firm with ill-defined margins. There was no rise in local temperature or scars or sinus over the swelling. The facial nerve was intact. His mouth opening was impaired with no abnormality in the oral cavity. There was no palpable cervical lymphadenopathy.

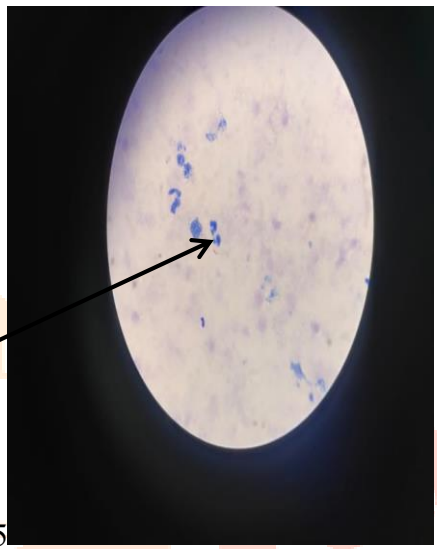
His hemoglobin was 9.5g/dl with a WBC count of 4910/cumm and platelet count of 301000/cumm. He was HbsAg Positive and the rest of the blood parameters were within normal physiological range. His ultrasonographic examination showed a hypoechoic collection of 6*5cm in the superficial lobe of the left parotid with dependent hyperechoic foci with no adjacent lymphadenopathy suggestive of an inflammatory mass. His chest X-ray showed ground glass opacities in the upper and lower lobe of his left lung(Figure .4) . His induced sputum for AFB & CBNAAT was negative and Mantoux was negative. Fine needle aspiration cytology of the swelling showed granulomatous inflammation. Ziehl-Neelsen Acid fast bacilli was positive(Figure.5 shows microscopic finding of Ziehl-Neelsen Acid fast test) . Hence, a diagnosis of parotid gland tuberculosis was made and was started on a daily regimen of antitubercular drugs.

Figure 1 

Figure 2 

Figure 3 

Figure 4



M . tuberculi Figure 5

Discussion

Tuberculosis is a disease with varied clinical presentations and wide distribution frequently involving lungs. There is variation within extrapulmonary cases according to specific anatomic sites with regard to the above characteristics as well as age distribution [1]. Approximately 25% of tubercular-related morbidity is due to extrapulmonary tuberculosis. Extra pulmonary tuberculosis is commonly manifested as lymph gland tuberculosis and other forms include pleural, skeletal, central nervous system, abdominal, genitourinary, and pericardial tuberculosis. Even though tuberculosis is common in developing countries like India, salivary gland involvement is rare. Parotid tuberculosis is a rare form of extrapulmonary tuberculosis [2,3].

Parotid gland involvement may be either via hematogenous spread from the primary foci in the lung or from the oral cavity via duct reaching the gland. Primary extrapulmonary tuberculosis involving the salivary gland is less commonly seen compared to manifestation as secondary to systemic dissemination of pulmonary tuberculosis. The incidence of EPT among HIV-positive patients is 19.8% while among non-HIV individuals it is 9.2% [4]. The first case of parotid gland tuberculosis was reported in 1893 by C De Paoli. Tuberculosis of the parotid gland presents with difficulties in diagnosis because of the similarity of the presentation to that of a neoplasm [5]. The clinical presentation varies from a localized indolent chronic swelling to an acute painful swelling. A high index of suspicion by the treating physician is mandatory for a streamlined workup and early diagnosis. Ultrasonography (US) is highly sensitive for 70-80% of tumors within the superficial parotid when compared with a computed tomographic scan (CT) or magnetic resonance imaging scan (MRI) [6].

Computed tomography and magnetic resonance imaging are sensitive in delineating intraparotid lesions but not specific. Linearly arranged enhancing nodules in the superficial lobe are seen in CT. Lesions appear hypointense on T1 and hyperintense on T2 weighted images but this is a non-specific finding on MRI.

An ultrasonographic examination is the initial imaging technique to evaluate the parotid gland. A high-resolution ultrasound helps to delineate the extent and location of swelling, differentiate benign from malignant swelling, and throws light upon the need for further workup and surgical intervention. Parotid gland tuberculosis is classified into two types on sonographic examination. The parenchymal type is identified by a diffusely enlarged hypoechoic gland, with or without focal intra-parotid cavities. The peri-parotid type has hypoechoic areas in the periphery in a hyperechoic parotid gland with or without enlarged draining lymph nodes. An ultrasonographic examination of our patient revealed a benign hypoechoic area with hyperechoic debris suggesting a cystic abscess. A sonographic-guided fine needle aspiration cytology correlates with an accuracy of 86-89% with postoperative histological findings.

A chest radiograph is mandatory in patients with symptoms suggestive of pulmonary TB and in cases with suspicion of disseminated TB. The non-specific nature of these radiographic findings can often delay the diagnosis [7]. Early recognition of salivary gland disease depends upon a high index of suspicion by the clinician [8].In our patient, we had evidence of active TB in the left lung with conclusive evidence from FNAC suggesting parotid TB. Hence, surgery was avoided and management was conservative with the antitubercular regimen. This highlights the importance of FNAC in parotid swellings.

CONCLUSIONS- Parotid gland abscess caused by a tuberculosis infection is a case that is rarely found at a clinical level. Its similar symptomatology to neoplasms and the non-existent symptoms of tuberculosis caused several difficulties in establishing a proper diagnosis for this patient. Parotid gland abscess caused by tuberculosis has to always be referred to as a comparative diagnosis for patients who have a solitary mass at their parotid glands in order to prevent unnecessary surgical operation and treatment.

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