

Tuberculous Parotid Abscess in an 11-Year-Old Girl

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Summary:

This case is being reported because tubercular involvement of the parotid gland in the pediatric population is extremely rare even in the TB endemic country like Bangladesh. Here, a case of an 11 year old girl with tuberculous abscess of the right parotid gland is reported who presented with right sided earache, headache and fever for two months followed by development of a swelling in front of the right ear for one and half months. There was no history of running nose, drooling of saliva, pain on deglutition, prolonged cough or hemoptysis, loss of appetite or weight loss. Patient came from an area where many known TB patients reside. General and systemic examination revealed no abnormality

except the swelling. Her BCG mark was present and BMI was age appropriate. Tuberculin test (MT) was positive and chest x-ray revealed no abnormality. The diagnosis of tuberculous parotid abscess was initially made by histopathology of the swelling. Treatment was commenced with a six months anti-TB regimen according to the national TB guideline. Finally, TB was confirmed upon the clinical response to anti-TB therapy. Therefore, it is recommended to consider TB in the differential diagnosis of parotiditis and chronic swelling of this salivary gland especially in TB endemic countries.

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Introduction:

Tuberculosis (TB) results in a range of clinical disorders and is one of the most frequent infectious causes of mortality and morbidity in the world. Although TB is a major health problem in developing countries, tuberculosis of the parotid gland is rarely encountered. Clinical differentiation between a parotid neoplasm, pyogenic parotiditis and tuberculosis is difficult and hence the diagnosis is usually histological¹. Clinical manifestation of chronic parotiditis includes non-tender swelling and enlargement of the gland. In infections such as TB, there could be fistula and drainage of pus. However, it is notable that clinical features are not sufficient to differentiate various diseases of the parotid gland². We reported a similar case in which a patient suspected to have bacterial parotiditis initially turned out to be parotid tuberculosis later on. In developing countries

where TB is common, parotid gland could also be involved; sometimes appearing as primary tuberculosis of parotid gland. Involvement of the parotid gland especially in the form of abscess is very rare; as a result of which, diagnosis could be delayed².

Case Report:

An 11 year old adolescent girl was referred to 250 Bedded TB Hospital, Shyamoli, Dhaka, from the department of Otolaryngology, Saheed Suhrawardi Medical College Hospital (ShSMCH). She first attended the OPD of ShSMCH due to pain in the right ear, headache and fever for two months and gradual swelling in front of the right ear for one and half months. There was no history of running nose, drooling of saliva, pain on deglutition, prolonged cough or hemoptysis, loss of appetite or weight loss, alteration in bowel habit. She was from Bihari camp of Mohammadpur where different types of TB patient including smear positive pulmonary TB patients reside. Her general and systemic examination revealed no abnormality except the swelling, BCG mark was present and BMI was age appropriate. Initially she was diagnosed as a case of parotid abscess clinically, pus was aspirated in the OPD and was sent for culture sensitivity (C/S). She was also advised for FNAC of the swelling. Pus for C/S revealed no growth and FNAC report showed acute suppurative inflammation (Parotid

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Abscess). So she was admitted after availability of the reports and treated with injectable Ceftriaxone and Metronidazole along with analgesics for 4 days followed by oral antibiotics for another 7 days upon discharge. Despite of a total 11 days antibiotic therapy, pus was discharging continuously from that wound and previous symptoms were not resolving completely. She revisited the OPD and was admitted again for surgical intervention. Meanwhile, investigations were done including CBC (Hb- 7.4gm%, ESR 117 mm in 1st hour, TC- 6,500/mm³, poly- 68%, lym-25%), CXR-normal, USG of parotid region- right parotid is diffusely enlarged, having heterogenous parenchymal echotexture and internal debris measuring about (19.8 x 23.6) mm², submandibular lymphadenopathy present, MT- 20 mm. Operation was done under local anesthesia and the specimen was sent for histopathology which revealed pieces of abscess wall showing dense infiltration of acute and chronic inflammatory cells

along with ill-defined epithelioid granuloma and necrosis with

presence of Langhan's type giant cells and no evidence of malignancy, suggestive of tuberculous abscess of right parotid gland. Based on the histopathology report she was referred to TB hospital for anti-TB therapy. Anti-TB therapy was commenced for a period of six months as per the national TB guideline and her clinical response to treatment was monitored time to time. During the first follow up visit on day 15th of anti TB she was afebrile, regaining appetite, surgical wound and discharging sinus were getting healed. During the second visit on day 90th, she mentioned to have no fever for last 90 days, appetite good, gained weight by 5 kg and wound healed completely. She was also investigated for the side effects of anti-TB (SGPT, Serum Bilirubin, Serum Creatinin) during the follow up period and the results found to be normal. Last follow up was given at the end of six months of treatment and she was declared 'cured' clinically.



(a)



(b)

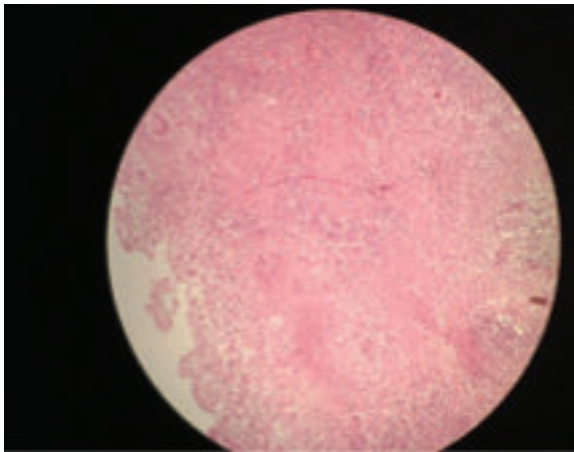
Fig-1: (a) Mim, 11 year old girl with parotid swelling, (b) Discharging sinus in the parotid gland (before treatment)



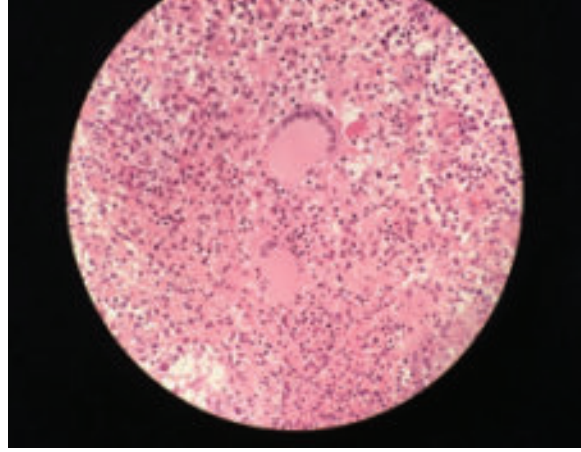
Fig.-2: CXR of Mim



Fig.-3: USG of the right parotid gland



(a)



(b)

Fig.-4: (a) Photomicrograph of section of parotid tissue, (b) Presence of caseous necrosis with macrophages and epithelioid cells along with Langhan's giant cell.



(a)



(b)

Fig.-5: (a) After 15 days of anti-TB, (b) After 90 days of anti-TB

Discussion:

Involvement of the salivary gland in tuberculosis is extremely rare. First case of parotid gland tuberculosis was reported in 1893 by C De Pauli, and since then only about 100 cases have been reported in world literature³. Salivary glands are relatively immune to tuberculosis due to the presence of thiocyanate ion and proteolytic enzyme like lysozymes which have antibacterial property⁴. Moreover, persistent flow of saliva also prevents lodging and growth of mycobacteria inside the glands. Tubercular involvement of the parotid gland occurs in two ways- the commoner type is involvement of intra-glandular lymph nodes and the other variety is involvement of the parenchyma⁴. Through the path the mycobacteria reach the parotid is still unclear⁵, some suggested autoinoculation with infected sputum through the Stensen's duct, hematogenous or lymphatic spread from cervical lymph nodes or infected tonsils or external auditory canal⁵⁻⁷.

Parotid gland can be involved concurrently with pulmonary tuberculosis (PTB) or can be the primary site without PTB like this case. It most commonly presents as a localized mass, resulting from infection of intra-capsular or peri-capsular lymph nodes⁸. It may also present as an acute sialadenitis with diffuse gland enlargement or even as a periauricular fistula or an abscess¹.

A case of a parotid swelling is a diagnostic dilemma since we have to differentiate between a neoplasm and an infective lesion like tuberculosis¹. If we can diagnose tuberculosis clinically or with minimal invasive investigations, potential complications of parotidectomy like facial nerve damage can be avoided. High resolution USG is able to differentiate whether the lesion is within the gland or in the periparotid area and whether it is malignant or benign neoplasm⁸. The color Doppler is not specific for detecting the site of the lesion⁸. Non invasive procedures are sensitive but not specific in detecting intraparotid TB⁸. On the contrary, fine needle aspiration cytology (FNAC) has high sensitivity and

specificity for diagnosis. Ziehl Neelsen (ZN) staining of the fine needle aspirate can further increase the specificity¹. In this case ZN staining was not done

because TB parotiditis is an extreme rare condition and hence it was not a differential diagnosis initially. However, if the minimal invasive test like FNAC is inconclusive then we can go for a surgical procedure. In this case, diagnosis of tuberculosis of the parotid gland was made only after histological analysis which is similar to the case reported by Wantanabe M⁵. Handa has documented 5 cases of parotid tuberculosis by FNAC⁹. Finally, the disease was confirmed in this patient by observing the therapeutic response to anti-TB therapy. What more could be done in this case were Gene Xpert and Culture of the surgical specimen to detect mycobacterium. From the clinical presentation of this case it can be emphasized that a high index of suspicion for tuberculosis is necessary in investigating a case of parotid swelling, so that we may be able to avoid parotidectomy and its potential complications.

From this case report it can be recommended to consider tuberculosis as one of the causes of parotid swelling especially in endemic countries like Bangladesh and to perform AFB Staining, Gene Xpert and Mycobacterial culture of the tissue obtained from the swelling.

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