

## Uncommon Presentation of Common Disease

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### Abstract:

Tuberculosis is a chronic, granulomatous disease. Primary lesion usually occurs in the lung. Extra pulmonary infection commonly involves head, neck and abdomen. In the absence of typical features of tuberculosis, tuberculous cellulitis mimicking oral infection may pose a challenge for diagnosis. In an attempt to highlight an uncommon presentation, we document a case of extra pulmonary tuberculosis in the parotid gland (tuberculous parotitis), without evidence of pulmonary tuberculosis and HIV.

A 30 year old female from low socio-economic status reported with pain in front of the left ear and difficulty in opening her mouth. Swelling was present on left side of the face without evidence of intraoral focus of infection. She was diagnosed to be having tuberculosis of parotid gland after fine needle aspiration cytology (FNAC), Ultrasonography (USG) and histopathological examination and was treated medically and surgically.

**Key Words:** Tuberculosis, Parotid gland, Tuberculous Parotitis.

### Introduction:

Tuberculosis is a chronic, granulomatous disease commonly affecting the lungs. It is one of the leading infectious diseases in the world. It is one of the oldest diseases and is in fact as old as the mankind itself. It still remains as an uneradicated disease (Praveen et al, 2007). India accounts for nearly one-third of global burden of tuberculosis (Park, 2005).

The patient of pulmonary tuberculosis usually presents with fever, cough, night sweats, anorexia, weight loss, haemoptysis and breathlessness (Haslett et al, 2002). HIV infection is considered as the most prominent risk factor in acquiring active tuberculosis. Approximately 8% of persons with tuberculosis are co-infected with HIV. Excluding tuberculous lymphadenitis of the neck, which is present in about 10% of patients suffering from extra pulmonary tuberculosis, disease occurrence in the head and neck region is seen in about 1% of patients (Rinaggio, 2003).

Tuberculous parotitis was first described in 1981 by Kuruvilla. Tuberculous parotitis with pulmonary infection is seen more commonly, but primary type of isolated parotid tuberculosis is seen very rarely (Selcuk et al, 2006).

### Case Presentation:

A 30 year old housewife from low socio-economic status, reported complaining of severe pain

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Fig. I: Showing swelling on left side of face.

in front of left ear for two months and swelling with difficulty in opening the mouth for last 3 weeks (Fig.I). Her family history and past medical and dental history were not significant. She was pale, moderately built and moderately nourished.

An irregular, diffuse swelling was noted in pre-auricular area on the left side, measuring approximately 3 x 5 cm. It was extending from pinna to the outer canthus of the eye and down upto the lower border of the mandible. It was tender and soft to firm in consistency. Regional lymph nodes were soft, mobile and tender. Movements of temporomandibular joint were less pronounced on left side; mouth opening was 17 mm with deviation towards left side (Fig. II). Intra- oral examination revealed discoloured lateral

incisor in left upper quadrant which was non vital on electric pulp testing. Ellis class I fracture in relation to right lower central and lateral incisor was observed and teeth were vital on electric pulp testing.

Provisional diagnosis of chronic parotitis of left side and chronic irreversible pulpitis of upper left lateral incisor was made. The differential diagnosis included adenoma of parotid gland, adenoma with malignant changes and submassetric space infection. Odontogenic source of infection causing the swelling was ruled out by the absence of third molar and any active carious lesions. Periapical abscess was present in relation with upper left lateral incisor (Fig. III).



Fig. II: Showing reduced mouth opening.



Fig. III: Panoramic view showing absence of third molars and any other source of odontogenic infection. It also shows no fracture or evidence of any temporomandibular joint pathology.

Buccal mucosa of left side was dried and sterile gutta-percha was inserted in the left Stenson's duct and sample of saliva was collected for culture and sensitivity. Patient was placed on antibiotic therapy (Amoxicillin 500mg and Metronidazole 400 mg three



Fig. IV: Ultrasonography of parotid gland showing irregular hypoechoic areas with ill-defined margins. The collection was abutting superficial lobe of parotid. (arrow) showing intraparotid abscess.

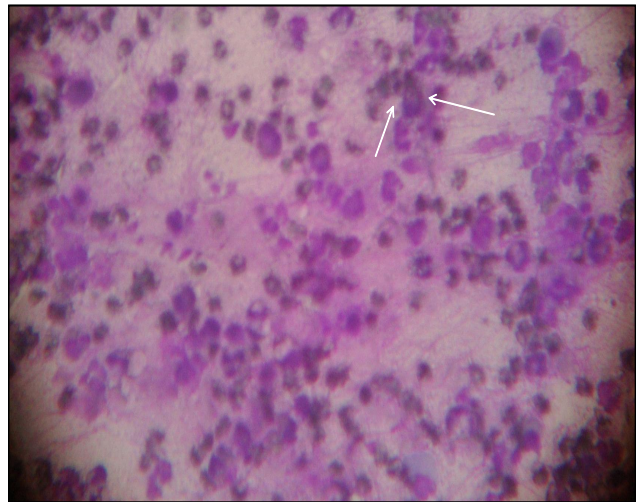


Fig. V: Fine needle aspiration cytology showing few epithelioid granulomas with Langhans cells (arrows).

times a day) along with anti-inflammatory analgesics.

Culture of saliva showed pseudomonas growth. Ultrasonography (USG) of the left parotid gland showed irregular hypo-echoic areas with ill defined margins and heterogeneous internal contents. Findings were suggestive of parotid abscess (Fig. IV).

Fine needle aspiration cytology (FNAC) of left parotid gland revealed granulomatous lesion with epithelioid and Langhans giant cells (Fig. V), which was consistent with tubercular granulomatous lesion. The diagnosis was confirmed by biopsy of the tissue taken from the same site (Fig. VI).

Mantoux test was strongly positive. Saliva was negative for AFB. X- ray chest was normal (Fig. VII). Blood investigations showed Hb 9 gm% and ESR 45

mm after 1st hour. Patient was non-reactive to ELISA test.

Patient was put on antitubercular regimen as per the Revised National Tuberculosis Control Programme (RNTCP) criteria Category III.



Fig. VI: Histopathological examination showing presence of Langhans cells (arrow).

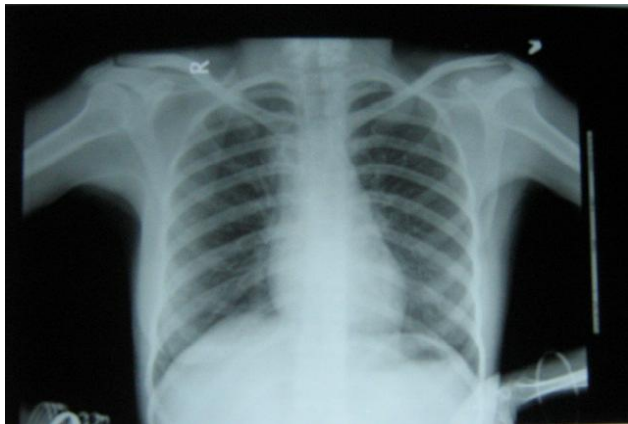


Fig. VII: Chest X-ray showing no abnormalities.



Fig. VIII: Showing reduced swelling after 21 days of antitubercular regimen.

Follow up after 21 days showed reduction in swelling with improvement in mouth opening up to 20 mm (Fig. VIII & IX). Deviation of mouth was noted towards left side on opening. Patient was further investigated and treated for TMJ abnormality and endodontic treatment was carried out for upper left lateral incisor.



Fig. IX: Mouth opening 20mm after 21 days

### Discussion:

Extrapulmonary forms of tuberculosis account for approximately 20% of overall active tuberculosis, but the salivary glands appear to be rarely affected. This may be due to the inhibitory effect of saliva on mycobacteria (Birkent et al, 2008). Tuberculosis of the parotid gland is uncommon and only 100 cases being described in the literature in immunocompetent patients (Rangel et al, 2005). Tuberculous parotitis occurs in 2.5% - 10% of parotid gland lesion even in countries where the disease is endemic such as India (Birkent et al, 2008).

Tuberculosis of parotid glands may be clinically misdiagnosed as parotitis, Warthins tumours, mixed tumours and sometimes malignant tumours. The existence of a known parotid lesion, with or without enlarged cervical lymph nodes and with no history or other evidence of tuberculosis is clinically suggestive of malignancy. Patients, therefore, may be referred for surgical intervention, which apparently carries risks of destruction of the parotid gland with fistula formation or facial palsy (Singh & Maharaj, 1992).

Histo-pathologically there are two types of Granulomatous parotitis: (i) localised disease with a solid mass corresponding to tuberculosis in the lymph node of the parotid, (ii) diffuse disease involving parenchyma with nodules of irregular size and consistency (Birkent et al, 2007). The pathogenesis of

parotid tuberculosis remains unclear. Involvement of the parotid gland and lymph nodes may occur in two ways: (i) a focus of mycobacterial infection in the oral cavity liberates the mycobacterium which ascends into the salivary gland via its duct or passes to its associated lymph nodes via lymphatic vessels. (ii) second pathway involves hematogenous or lymphatic spread from a distant primary lung focus.

It most commonly presents as a localized mass, resulting from infection of intracapsular or pericapsular lymph nodes. It may also present as an acute sialadenitis with diffuse glandular enlargement. In this form the involvement is in the parenchyma of the salivary gland. It may also present as a periauricular fistula or as an abscess (Suleiman, 2001). Another mode of involvement as stated by Carmody is from infected molar tooth (Bakshi et al, 2009).

The most commonly implicated agent is mycobacterium bovis. Atypical mycobacterium rarely infects the parotid (Bakshi et al, 2009).

Primary tuberculosis of parotid gland presents in two forms: first acute inflammatory lesion mimicking sialadenitis which is more common, consisting of small and large abscesses, the parotid tissue is edematous, friable and indurated at places, second presentation is chronic tuberculous lesion which is circumscribed. The lesion presents as gradually increasing mass over months to years with no symptoms apart from swelling. On clinical examination it is impossible to distinguish them from parotid neoplasm (Bakshi et al, 2009).

In the present case the asymptomatic swelling was of long duration, but the appearance of acute pain in the same region made patient seek medical assistance.

HIV infection is considered as the most prominent risk factor in acquiring active tuberculosis and tuberculosis involving the parotid gland (Rinaggio, 2003).

Unusually oral manifestations may be the first manifestation of the disease. The case presented here is rare as it involves the parotid gland without HIV, active pulmonary tuberculosis and without draining sinus or fistula.

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