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Case Report
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# Bilateral Tubercular Parotitis: A Rare Case Report

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## Abstract

Although tuberculosis is a common health problem in developing countries (India), tuberculous parotitis is rarely encountered. It has often misdiagnosed as parotid neoplasm as it has non-specific symptoms and less incidence. In salivary glands USG, CT, Tru-cut and incisional diagnostic biopsies are not much beneficial, Fine-Needle Aspiration Cytology (FNAC) can provide a diagnosis. FNAC is preliminary step in the workup of a patient with a parotid mass, to avoid surgery in cases of inflammatory lesions. We present a case of parotid tuberculosis in a 52-year-old male that was diagnosed on cytology and managed medically.

**Keywords: Parotid tuberculosis; FNAC; USG; CT**

## Introduction

Tuberculosis is a chronic illness with worldwide distribution. It's a necrotizing granulomatous disease with varied clinical presentations. It most commonly involves the lungs. Extrapulmonary forms of tuberculosis account for approximately 20% of cases [1]. It can be seen in kidneys, bones, meninges and lymph nodes. Involvement of salivary gland in tuberculosis is an isolated occurrence [2,3]. Even in countries in which tuberculosis is endemic, parotid gland involvement is very rare. Clinically, Tubercular parotitis appears as a solitary mass which is slow growing in nature mimicking the parotid tumor. This diagnosis of parotid tuberculosis needs high degree of clinical suspicion, as many cases are misdiagnosed and undergo unnecessary surgery.

Here, we are presenting a case of bilateral swelling in parotid region which was caused by tuberculosis (causative agent *Mycobacterium tuberculosis*) and was successfully treated with antitubercular drugs.

## Case Presentation

A 52-years-old male presented to ENT outpatient department in Maharishi Markendeshwar Institute of Medical Science and Research, Mullana.

### Patient concerns

The patient came with complaints of bilateral cheek swelling associated with pain and reduced mouth opening for 1 month and fever which was on and off for 20 days.

The swelling was insidious in onset and gradually progressive in nature. The pain was constant in nature, shooting type and radiating towards the involved ear and neck.

Patient also had complaints of generalized body ache, difficulty in opening mouth, loss of appetite, dryness of mouth, nausea, headache, pain in neck movement, weight loss, cough (on and off). No h/o tuberculosis to the patient in past or in the family.

On general examination patient was calm, conscious, well oriented with average built.

On local examination of the cheeks (b parotid regions) Right sided swelling was of approx. 5 cm × 4 cm and left sided swelling was of approx. size 4 cm × 4 cm in size. Skin changes - reddish discoloration with bluish hue were present. The swelling was firm in consistency with tenderness and with increased in local temperature, non-reducible, non-compressible, no scar or no discharging sinus seen. No cervical lymph nodes were palpable.

Mouth opening at presentation was significantly reduced (1 finger breadth). No pus point was present inside the oral cavity.

Clinical pictures on arrival (Figure 1, 2).

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**Figure 1:** Showing swelling with overlying skin color changes.

**Figure 2:** With reduced mouth opening.

**Figure 3:** Normal overlying skin with reduced swelling.

**Figure 4:** Improved mouth opening.

### Management

**Diagnostic investigations:** All Routine blood investigation were normal except raised ESR=130 mm/h (N=0-9 mm/h). Other routine blood investigations and chest X-ray were within normal limits. Viral markers- non reactive.

**Ultrasound:** (parotid)- Bilateral parotid gland appears diffusely bulky and shows increased vascularity on color Doppler (left > right), rest within normal limits. Suggestive of bilateral parotitis.

**CECT face**: Revealed diffuse bilateral parotitis with small intraglandular early abscesses with diffuse myositis involving the bilateral masseter and medial and lateral pterygoid muscles? Infective pathology.

Patient was started with symptomatic conservative treatment followed by physiotherapy exercises for the trismus.

Sputum samples were sent for Gram Staining, Ziehl Neelsen staining and CBNAAT - negative for AF Bacilli

**FNAC** (Was taken from B/L parotid swelling): Revealed Necrotizing granulomatous pathology (tubercular).

### ZN stain for AFB from bilateral parotid swelling came out to be Positive

**Treatment:** Patient was then started on Antitubercular therapy (according to weight band). It was given in 2 phases, intensive therapy was given for 2 months with HRZE consisting of Isoniazid, Rifampicin, Pyrazinamide, and Ethambutol along with Pyridoxine and then followed by continuation phase for 4 months with HRE.

On follow up after, 2 weeks, the swelling was markedly reduced with normal overlying skin over the swelling. Mouth opening increased to 3 finger breadth. Patient had significant improvement in constitutional symptoms like loss of fever, gain of appetite and weight.

Photograph of patient after 2 weeks of anti-tubercular treatment (Figure 3, 4).

**Follow-up:** Patient has been kept on regular follow up till date, and has not developed any similar symptom after starting treatment.

## Discussion

Tuberculosis is endemic in the Indian sub-continent, and India had reported incidence of tuberculosis in 210/1,00,000 population for the year 2021. In spite of being a common infection, tuberculosis of major salivary glands is infrequently seen. Parotid tuberculosis constitutes 2.5% to 10% of salivary gland tuberculosis [4,5].

How the *Mycobacterium* reaches the parotid gland is still unclear. But the involvement of the parotid gland and its lymph nodes can be possibly from any of the two ways [6]. One hypothesis presumes that it occurs by direct spread of mycobacteria from a nearby infected source. The sources can be infected tonsils or teeth and the spread may also occur through direct inoculation by sputum, retrograde spread of bacilli through duct or by afferent lymphatics. The other possibility is that the gland may be infected by hematogenous or lymphatic spread from the lungs [5,7-9]. It is hypothesized that a hypersensitivity reaction on initial infection leads to the bacilli being covered in the scar tissue. These bacteria get reactivated during low immunity health status even after months to years.

Clinical presentation differs from an acute to chronic sialadenitis. Chronic form shows similarities with a tumorous growth, where patient presents as slow-growing asymptomatic, painless mass with or without cervical lymphadenopathy. Radiology is nonspecific. The most common involvement is unilateral but it can occasionally be bilateral [10]. It is seen in both males and females equally.

Steps to be followed while working up a case slow growing

swelling of parotid gland is first imaging, as benign tumors are the most common cause. Other differential diagnoses are collagen vascular disorders like sarcoidosis, parotid cyst and rarely malignant tumors. Imaging modalities like Ultrasonography, CT scan, and MRI are used, but all of them have nonspecific findings [1,7].

Two types of parotid involvement have been described in ultrasonography findings, the parenchymal type, where there is diffuse involvement of superficial part of the parotid gland, and peri-parotid type, where intra- and peri-glandular lymph nodes are affected and might present as an abscess later. In our case, there was abscess formation (early stage). CT scan also revealed bony erosion. there was no evidence of pulmonary tuberculosis.

The definitive diagnosis is made by FNAC or histological examination after parotidectomy [11-14]. Tuberculous parotitis holds being diagnostic challenge in the absence of clinical disease in lung and it requires a high degree of clinical suspicion and adds of other supportive investigations.

FNAC has good sensitivity (81% to 100%) [15,16] as well as specificity (94% to100%) [15].

Parotid gland tuberculosis has a good prognosis with drug therapy. Anti-tuberculous drugs are given for 6 months, including 2 months of intensive phase with isoniazid, rifampicin, pyrazinamide, and ethambutol, followed by 4 months of continuation phase with isoniazid, rifampicin, and ethambutol [10-12,17]. Surgery is rarely required. Tuberculosis should be kept in mind while evaluating a solitary parotid mass, as it is a medically treatable condition, and surgery can be avoided.

## Conclusion

FNAC has proven to be a beneficial diagnostic procedure in tubercular parotitis.

## References


1. Maurya MK, Kumar S, Singh HP, Verma A. Tuberculous parotitis: A series of eight cases and review of literature. Natl J Maxillofac Surg. 2019;10(1):118-22.
2. Aygenc E, Albayrak L, Ensari S. Tuberculous parotitis. Infect Dis Clin Pract. 2002;11(9):555-7.
3. Janmeja AK, Das SK, Kochhar S, Handa U. Tuberculosis of the parotid gland. Indian J Chest Dis Allied Sci. 2003;45(1):67-9.
4. Hamdan AL, Hadi U, Shabb N. Tuberculous parotitis: A forgotten entity. Otolaryngol Head Neck Surg. 2002;126(5):581-2.
5. Handa U, Kumar S, Punia RS, Mohan H, Abrol R, Saini V. Tuberculous parotitis: A series of five cases diagnosed on fine needle aspiration cytology. J Laryngol Otol. 200;115(3):235-7.
6. Thakur JS, Thakur A, Mohindroo NK, Mohindroo S, Sharma DR. Bilateral parotid tuberculosis. J Glob Infect Dis. 2011;3(3):296.
7. Singh D, Mishra S. A rare case of parotid gland tuberculosis. Case Rep Pediatr. 2021;2021:1-3.
8. Sethi A, Sareen D, Sabherwal A, Malhotra V. Primary parotid tuberculosis: Varied clinical presentations. Oral Dis. 2006;12(2):213-5.
9. Iserì M, Aydìner Ö, Çelìk L, Peker Ö. Tuberculosis of the parotid gland. J Laryngol Otol. 2005;119(4):311-3.
10. Lee IK, Liu JW. Tuberculous parotitis: Case report and literature review. Ann Otol Rhinol Laryngol. 2005;114(7):547-51.
11. Errami N, Benjelloun A, Tahtah N, Hemmaoui B, Jahidi A, Nakkabi I, et al. Tuberculosis of the parotid gland: Histology surprise. Pan Afr Med J. 2015;20:343.
12. Gayathri BN, Kalyani R, Manjula K. Primary tuberculous parotitis. J Cytol. 2011;28(3):144-5.
13. Patil R, Kannan N, Kumar MR, Sreedevi BS, Sarath PV. Tuberculous parotid lymphadenitis: A rare case report. J Indian Acad Oral Med Radiol. 2011;23(Suppl 1):S392-5.
14. Patankar SS, Chandorkar SS, Garg A. Parotid gland tuberculosis: A case report. Indian J Surg. 2012;74(2):179-80.
15. Birkent H, Karahatay S, Akcam T, Durmaz A, Ongoru O. Primary parotid tuberculosis mimicking parotid neoplasm: A case report. J Med Case Rep. 2008;2:62.
16. Garg R, Verma SK, Mehra S, Srivastawa AN. Parotid tuberculosis. Lung India. 2010;27(4):253.
17. Janmeja AK, Das SK, Kochhar S, Handa U. Tuberculosis of the parotid gland. Indian J Chest Dis Allied Sci. 2003;45(1):67-9.