

## An Unusual Case of Primary Parotid Tuberculosis Associated with Whartin's Tumor: Case Report

Laghsene L\*, Lita Z, Elouahab S, Loudghiri M, Bijou W, Oukessou Y, Rouadi S, Abada R, Roubal M and Mahtar M

Department of ENT Head and Neck Surgery, Ibn Rochd University Hospital, Faculty of Medicine and Pharmacy, Hassan II University, Casablanca, Morocco

**Citation:** Laghsene L, Lita Z, Elouahab S, et al. An Unusual Case of Primary Parotid Tuberculosis Associated with Whartin's Tumor: Case Report. *Medi Clin Case Rep J* 2024;2(4):538-540. DOI: doi.org/10.51219/MCCRJ/Laghsene-Loubna/143

**Received:** 29 October, 2024; **Accepted:** 06 November, 2024; **Published:** 08 November, 2024

\***Corresponding author:** Laghsene Loubna, Department of ENT Head and Neck Surgery, Ibn Rochd University Hospital, Faculty of Medicine and Pharmacy, Hassan II University, Casablanca, Morocco, Email: loubnalarsen@gmail.com

**Copyright:** © 2024 Laghsene L, et al., This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

### ABSTRACT

**Introduction:** Parotid tuberculosis is an extremely rare condition and cases of parotid tuberculosis associated to Warthin's tumor is even rarer. It presents as a swelling in the parotid region and is confirmed and through histopathological analysis.

**Case presentation:** 66-year-old male patient, admitted for a swelling of the right parotid region, increasing in volume progressively since 6 months. Once in our structure, He benefited of a cervical Ultra Sound, followed by a cervical MRI, which revealed a solid cystic parotid process, measuring 36 mm, that may be related to a pleomorphic adenoma or a malignant lesion. The decision to proceed with a combined medical and surgical treatment approach was made, which not only allowed the complete excision of the Warthin tumor but also confirmed the diagnosis of the associated tuberculosis on the definitive pathological examination.

**Conclusion:** the key lessons highlight the limited role of radiological imaging in the detection of parotid tuberculosis on one side and the crucial importance role of surgery, not only for confirming the diagnosis of tuberculosis but also for identifying associated tumors, which may be either malignant or benign on the other side.

**Keywords:** Parotid tuberculosis; Parotid cysadenolymphoma; Whartin's tumor; Associated cystadenolymphoma; Whartin's tumor; Parotid tuberculosis; Extrapulmonary tuberculosis; Salivary gland tuberculosis

### Introduction

Parotid tuberculosis is a rare form of extrapulmonary tuberculosis, even within endemic countries like Morocco. Clinical diagnosis can be very difficult and may lead to misdiagnosis, as it resembles neoplasms during physical examinations and imaging studies. In this study, we present a case of primary parotid tuberculosis associated with a cyst adenolymphoma in a 66-year-old male patient who underwent combined medical and surgical management. The patient's outcome was very favorable, resulting in complete resolution of the disease.

Despite its infrequency, parotid tuberculosis generally has a positive prognosis if diagnosed and treated early. Surprisingly parotid gland tuberculosis has very rarely been reported in the literature especially in cases linked to Warthin's tumor.

### Case Report

A 66 years old Male patient, without any particular medical antecedents. There was no history of trauma or previous surgery or any contact with TB patient. The patient was admitted in our department for a painless right parotid swelling increasing in volume progressively, evolving since 6 months. Without

limitation of the mouth opening or peripheral facial paralysis or any other associated signs. All evolving in a context of a good general state.

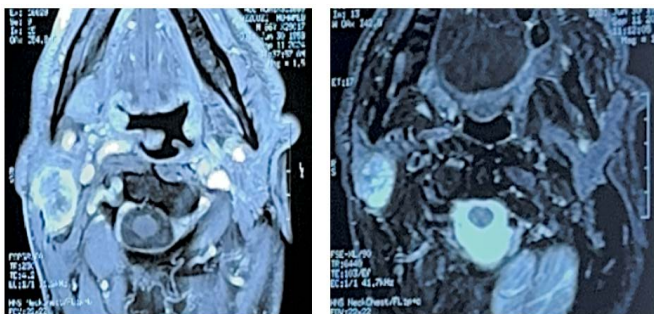
The physical examination revealed a small painless and firm mass of the right parotid region, mobile to the superficial and deep plan, measuring approximatively 3 cm of grand axis, without any inflammatory signs in opposite. The left parotid region is normal. The Examination of the cervical lymph node areas did not reveal any lymphadenopathy. The examination of the oral cavity was normal, with no evidence of pus emission or inflammation in opposite. The rest of the facial examination was unremarkable (**Figure 1**).



**Figure1:** Image showing the swelling of the right parotid region.

The Cervical ultrasound performed showed a right parotid oval tumor lesion with regular contours, measuring 3 cm, most likely suggestive of a pleomorphic adenoma.

The facial MRI showed a solid cystic oval formation, well limited, seat of a multi-partitioned cystic component with heterogeneous intermediate T2 signal and T1 Hypersignal spread over 36 mm, with fine peripheral contrast, describing an ADC ratio of 0.94. The right parotid and submandibular glands, in addition to the thyroid are without signal or morphological abnormalities (**Figure 2**).



**Figure 2:** Axial Facial MRI images showing: the solid cystic formation in T1 and T2 signal.

The patient was discussed at a staff meeting and the decision was made to proceed with a surgical management. Therefore, the patient underwent a right superficial parotidectomy with an intraoperative frozen section, which revealed a right parotid tuberculosis.

The definitive pathological examination revealed a Warthin's tumor, also known as cyst adenolymphoma, completely excised and associated with evolving case follicular tuberculosis, without any signs of malignancy.

The postoperative follow-up, after having benefited from a six-month course of antitubercular treatment, was very favorable. The patient did not experience any local recurrence and is in stable condition.

## Discussion

Tuberculosis can affect any organ system in the body. Although pulmonary tuberculosis is the most common form, extrapulmonary tuberculosis (EPTB) is also a significant clinical issue<sup>1,2</sup>. It represents approximately 25% of overall tubercular morbidity<sup>3</sup>. This rarity is attributed to the antibacterial properties of saliva and its continuous flow, which prevents the accumulation of bacilli.

Among the various forms of extrapulmonary tuberculosis (EPTB). Lymph node tuberculosis is the most prevalent type. Other types include skeletal, central nervous system, abdominal, genitourinary tuberculosis and tuberculous pericarditis<sup>4</sup>.

Parotid tuberculosis is a rare form of extra pulmonary tuberculosis. There are two primary theories regarding the pathogenesis of tubercular parotitis. The first theory proposes that the condition arises from the direct transmission of mycobacteria from an adjacent infected site in the oral cavity, such as the tonsils or teeth. This transmission may occur either through retrograde movement of the bacilli via the duct or through afferent lymphatic pathways. The second theory suggests that the infection could also spread to the gland through hematogenous or lymphatic transfer originating from the lungs<sup>5</sup>.

Clinically, parotid tuberculosis is generally presented as a unilateral swelling or abscess, involving the gland's parenchyma<sup>6</sup>. Late manifestations include pain, abscess formation, fistulas and facial nerve involvement. Although symptoms like cough, fever, weight loss and loss of appetite can occur with tuberculosis but they are relatively rare<sup>7,8</sup>.

Parotid tuberculosis is often mistaken for cancer or autoimmune diseases. Imaging tests typically lack specificity, making microbiological diagnosis essential for accurately identifying this condition<sup>9</sup>.

Radiological examinations, including ultrasound, CT and MRI, are effective at identifying intraparotid tubercular lesions; however, the results often lack specificity and can resemble malignancies. CT and MRI are particularly useful for assessing the size of the lesion and identifying any deeper associated conditions. Due to the tumor-like appearance of the imaging results, many cases may necessitate surgical intervention, such as a superficial parotidectomy, with the diagnosis being confirmed postoperatively<sup>10</sup>. However, MRI has a sensitivity of approximately 75% for detecting benign characteristics and this can be enhanced with contrast agents. Additionally, MRI may offer a more accurate characterization of the disease compared to CT and ultrasound<sup>11</sup>.

Due to the non-specific nature of imaging findings, confirming a tuberculosis diagnosis necessitates histological evidence. Fine needle aspiration cytology (FNAC) is highly sensitive and specific, making it the preferred initial approach for evaluating a parotid mass. However, their results can sometimes be inadequate or ambiguous. Such patients may be subjected to unwanted surgery<sup>10</sup>.

The World Health Organization (WHO) recommends a six-month treatment regimen for drug-sensitive tuberculosis<sup>12</sup>.

This regimen consists of Four drug regimen (rifampicin, isoniazid, ethambutol and pyrazinamide) in the intensive phase followed by two drugs (rifampicin and isoniazid) in continuation phase<sup>13</sup>.

Anti-tubercular medications should be initiated as soon as possible to ensure effective healing. While Previous guidelines emphasized the importance of combining medical and surgical methods to prevent recurrence<sup>8</sup>. the current ones increasingly favors conservative management. When the Surgical management is now primarily reserved for cases with residual enlargement of the parotid gland<sup>14,15</sup>.

## Conclusion

The Stenosis of the external auditory canal (EAC) can be congenital, due to abnormalities of the first gill cleft or acquired as a result of inflammation, trauma and the effects of radiotherapy, all sharing a common pathogenesis, namely a cascade of inflammatory changes leading to medial canal fibrosis. the surgical aim is to produce a dry and patent ear canal and also to improve hearing.

Management of acquired atresia requires a skin graft to cover the deficient ear canal, in addition to plug excision. However, the ear canal remains unstable and recurrence can occur.

## References

1. Fanning A. Tuberculosis: Extrapulmonary disease. *CMAJ* 1999;160(11):1597-1603.
2. Sharma SK, Mohan A. Extrapulmonary tuberculosis Indian J Med Res 2004;120(4):316-353.
3. Gopal R, Padmavathy BK, Jayashree K. Extrapulmonary tuberculosis: A retrospective study Indian J Tuberc 2001;49:225-6.
4. Farer LS, Lowell AM, Meader MP. Extra pulmonary tuberculosis in USA. *Am J Epidemiol* 1992;109(2):205-217.
5. Cantrell RW, Jensen JH, Reid D. Diagnosis and management of tuberculosis cervical adenitis. *Arch Otolaryngol* 1975;101(1):53-57.
6. Garg R, Verma SK, Mehra S, Srivastawa AN. Parotid tuberculosis. *Lung India* 2010;27:253-255.
7. Sūođlu Y, Erdamar B, Cōlhan I, Katirciođlu OS, Cevikbas U. Tuberculosis of the parotid gland. *J Laryngol Otol* 1998;112(6):588-591.
8. Stanley RB, Fernandez JA, Peppard SB. Cervical mycobacterial infections presenting as major salivary gland disease. *Laryngoscope* 1983;93(10):1271-1275.
9. Gupta N, Aggarwal A, Tripathi M, Nischal N. Parotid gland tuberculosis. *QJM* 2020;113:500-501.
10. Gupta V, Patankar K, Shinde A, Bhosale C, Tamhane A. Tuberculosis of the parotid gland. *Case Rep Radiol* 2012;2012:278793.
11. Iseri M, Aydiner O, Celik L, Peker O. Tuberculosis of the parotid gland. *J Laryngol Otol* 2005;119:311-313.
12. WHO consolidated guidelines on tuberculosis, module 4: treatment - drug-susceptible tuberculosis treatment.
13. World Health Organization. Treatment of tuberculosis: Guidelines for national programs WHO/CDS/TB/2003.313. 2003 Geneva WHO
14. Mastronikolis NS, Papadas TA, Marangos M, Karkoulas KP, Tsamandas AC, Goumas PD. Tuberculosis of the parotid gland *Tuberk Toraks* 2009;57:84-88.
15. Chintamani, Daniel R, Manu S, Bhushan V, Gupta K. Parotid TB. *Trop Doct* 2006;36(2) :119-120.