

Recurrent Parotitis: Extrapulmonary Manifestation of Childhood Tuberculosis

Keya Lahiri, Fehmida Najmuddin*, Rajesh Rai, Imran Patel, Kapil Shukla, Khushal Avasthi

Department of Pediatrics, D Y Patil Medical College, Hospital & Research Centre, Navi Mumbai, India
Email: fehmidanc@hotmail.com

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Abstract

Recurrent parotitis of childhood is a rare condition involving the largest salivary gland. The aetiology is multi-factorial and is usually non-obstructive or non-suppurative type of inflammation. It involves recurrent swelling of the parotid gland unilaterally or bilaterally over a period of months to years. Tuberculosis rarely involves the parotid gland, however in developing countries where tuberculosis prevalence is very high, any child with recurrent parotitis should be investigated for the same. We hereby, describe a 2 and half-year-old female child with recurrent parotid gland swelling below the right ear since 6 months. The swelling was acute in onset, gradually increasing in size with no discharge or pain. There was no history of fever, cough, cold, dryness of mouth or eyes, joint pain or rashes. There was history of koch's contact in the maternal grandfather. A positive mantoux test and significant cervical lymphadenopathy on Computed Tomography scan was noted. Common causes of recurrent parotitis, *i.e.* sjogrens syndrome, immunodeficiency and obstruction were ruled out. On the basis of the above history and investigations, the child was diagnosed as tuberculous parotitis.

Keywords

Parotitis, Recurrent, Tuberculosis, Pediatrics

1. Introduction

Mycobacterium tuberculosis involving the parotid gland as an extra-pulmonary site is extremely rare. Affection of the parotid gland is uncommon in a developing country like India, where the incidence of tuberculosis has been increasing over the past decades [1]. The inhibitory effect of saliva on *mycobacterium tuberculosis* protects the gland from being commonly infected. Cases of tubercular parotitis are usually seen in adult population, unlike paediatrics where only few have been reported so far [2]. Amongst the infectious agents, the commonest

*Corresponding author.

organism causing suppurative parotitis is *Staphylococcus aureus*. The diagnosis of tuberculous parotitis (TP) could pose a challenge to the practising physician, as the typical systemic symptoms are often absent [3]. Unilateral TP is often misdiagnosed as a benign parotid tumor.

2. Case Report

A 2 1/2-year-old female child born of non-consanguineous marriage, hailing from Pune, India, presented to a tertiary care hospital with complaints of recurrent swelling below the right ear since 6 months. The swelling was acute in onset, gradually increasing in size with no discharge or pain and would slightly decrease after analgesics and oral antibiotics. The swelling would reduce and reappear after repeated antibiotics usage. There was no history of fever, cough, cold, dryness of mouth or eyes, joint pain and rashes. There was no associated complaints of difficulty in chewing, drooling of saliva or deviation of the angle of the mouth.

There was history of koch's contact in the maternal grandfather, who was on therapy for pulmonary tuberculosis. The child belonged to a lower middle class, was immunized for age and developmentally normal.

Child was conscious, co-operative, averagely build and nourished with heart rate of 102 beats/min, respiratory rate of 26/min, temperature of 98 °F with blood pressure of 90/56 mm of Hg. Anthropometric measurements were normal for her age. There was pallor, with cervical lymphadenopathy with largest measuring 1.5 cm × 1.5 cm. On local examination, there was a right parotid swelling 3.5 cm × 3.5 cm, extending from pre auricular to post auricular, firm in consistency, rough surface with diffuse margins (**Figure 1**¹) The swelling had no signs of inflammation and there were no other stigmata of tuberculosis. The Stenson's duct opening, facial nerve and systemic examination were normal.

Hemoglobin was 9.5 gm/dl, Total leucocyte count was 16,300/cmm with neutrophils of 47%, lymphocytes 45% and platelets-503,000/cmm.

Other investigations include: (**Table 1**).

Table 1. Investigations.

Investigations	Results
ESR	15 mm/hr
Sr. IgG	2077 mg/dl (340 - 1200)
Sr. Amylase	64.8 U/L (50 - 100 U/L)
ANA	Normal
ANTI-RO/ANTI-LA	Negative
HIV	Non-reactive
RA Factor	Normal (10.00 IU/ml)

A positive mantoux test 12 × 12 mm was noted. Chest X ray and Computed tomography (CT) were normal. The Schirmer's tear test was negative. Gastric lavage for acid fast bacilli was negative.

Sialogram evaluation was normal and ultrasonography revealed enlarged right parotid gland with bilateral cervical multiple discrete lymph nodes. Computed Tomography of the neck was suggestive of bulky right parotid gland showing heterogenous contrast enhancement with multiple enlarged bilateral lymphodes. Fine needle aspiration (FNAC) of the gland revealed moderately cellular smears with few ductal acinar cells & plenty of lymphocytes.

The diagnosis of tuberculous parotitis was based on koch's contact, positive mantoux test with significant cervical lymphadenopathy. The other common causes of recurrent parotitis viz obstruction, immunodeficiency and sjogrens syndrome were ruled out. The child was initiated on 9 months of anti-tubercular [2 (HRZE) + 7 (HR)] therapy.

3. Discussion

The typical onset of recurrent parotitis is between 3 to 6 years of age and is characterized by fever, malaise and

¹Note: **Figure 1** and **Figure 2** are of the patient. After obtaining a written consent from the patient's parents, the authors clicked the above pictures pre and post therapy.



Figure 1. Parotid swelling.



Figure 2. Patient post therapy.

pain during mastication and swallowing. However our case presented as a non-tender, recurrent swelling without any associated complications. It is usually a self-limiting condition requiring conservative management with varied duration of improvement [4].

Two forms of tubercular parotitis have been described namely the localized one which involves the intraglandular or periglandular lymphnodes and the diffuse form which affects the whole gland [5].

It is usually a slow growing, non-tender swelling which involves the anterior and inferior areas around the ear. The spread of mycobacterial infection within the oral cavity is via the salivary duct into the salivary gland or passage into the neighbouring lymphnodes via lymphatic drainage. It can also spread via hematogenous or lymphatic route from a pulmonary foci [6].

The difficulties in the diagnosis of TP are the modalities which have limitations and lack specificity [7]. FNAC has a sensitivity of 81% - 100% and specificity of 94% - 100% [8], but was inconclusive in our case.

Surgical exploration could lead to permanent facial nerve damage, gland destruction, fistula formation [9] and was deferred due to the negative consent given by the parents.

The child has been gaining weight, with no further episodes of parotid swelling post anti-tubercular therapy on follow-up (**Figure 2**¹).

4. Conclusion

In conclusion, tubercular parotitis should be considered as a major differential diagnosis in a child presenting

with recurrent parotitis in India. In future, the authors strongly suggest a thorough tuberculosis work-up in pediatric age group with either unilateral or bilateral recurrent parotid gland swelling.

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