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Lymph node tuberculosis in children: a case report.

Lymph node tuberculosis in children: a case report

Maria Cristina Mattos Couto – Professor at Estácio de Sá University / IDOMED, Pediatrician at Lourenço Jorge Municipal Hospital.
mcrismcouto@yahoo.com.br

Maria Clara de Assis Ferreira – resident physician at Lourenço Jorge Municipal Hospital
mariassisf14@gmail.com

Summary

Tuberculous lymphadenitis (TBL) in children is the most common form of extrapulmonary tuberculosis (EPTB) in patients under 15 years of age. Tuberculosis remains a leading cause of childhood morbidity and mortality in developing countries. The WHO estimates that approximately 12% of global TB cases in 2023 occurred in children, and between 15% and 25% of these cases are extrapulmonary—with lymphadenitis representing the largest proportion of these forms, and unilateral cervical lymphadenitis being the most affected, especially in preschoolers. The aim of this study was to review the literature on tuberculous lymphadenitis in children, addressing clinical, diagnostic, and therapeutic aspects.

Keywords: Tuberculosis. Lymph node. Lymphadenitis.

Abstract

Tuberculous lymphadenitis (TBL) in children is the most common form of extrapulmonary tuberculosis (EPTB) in patients under 15 years of age. Tuberculosis remains a leading cause of childhood morbidity and mortality in developing countries. The WHO estimates that approximately 12% of global TB cases in 2023 occurred in children, and between 15% and 25% of these cases are extrapulmonary—with lymphadenitis representing the largest proportion of these forms, and unilateral cervical lymphadenitis being the most affected, especially in preschoolers. The aim of this study was to review the literature on lymph node tuberculosis in children, addressing clinical, diagnostic and therapeutic aspects.

Keywords: Tuberculous. Lymph node. Lynphadenitis.

1. Introduction

Tuberculosis is an infectious disease caused by Mycobacterium tuberculosis.

The ganglion form is one of the most common in children and adolescents, characterized by a specificity.

chronic lymph node dysfunction.

2. Materials and Methods

A literature review was conducted in the SciELO, LILACS, and PubMed databases.

using the descriptors "lymph node tuberculosis", "children" and "adolescents".

3. Discussion

The disease, caused by *Mycobacterium tuberculosis* (also known as tuberculosis bacillus).

Koch's disease is characterized by involvement of the cervical lymph nodes, but may also involve axillary lymph node chains.

supraclavicular and intrathoracic, the latter being especially observed in infants and children.

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small. Tuberculous lymphadenitis in children presents with a subacute or chronic evolution (more than 3 weeks), with progressive enlargement of the lymph nodes, usually painless, of firm consistency to elastic, which can evolve into central caseous necrosis, fluctuation, suppuration, and cutaneous fistulization. In most cases, there are no systemic symptoms, such as prolonged fever or weight loss, which This makes early diagnosis often difficult to achieve.

The diagnosis of tuberculous lymphadenopathy is multifactorial, combining history. Epidemiological (contact with TB, high endemicity), clinical examination (pattern of lymphadenopathy). chronic), immunological tests: TCT (PPD) and IGRA, microbiological tests: bacilloscopy, culture, Xpert MTB/RIF/Ultra, cytological or histopathological examinations (FNAB or excisional biopsy) and Imaging methods (ultrasound, CT scan, MRI). Definitive diagnosis occurs with confirmation. Compatible microbiological or histological results (caseous granulomas + positive AFB or PCR). The culture It remains the gold standard, but results take 2–8 weeks.

The tuberculin skin test (TST), also called PPD, is traditionally used. as a screening method for tuberculosis infection. A simple, low-cost test and Accessible with intradermal application and reading in 48–72 hours: Induration ÿ 10 mm is considered positive in most children.

Induration ÿ 5 mm is a criterion in immunocompromised children or those in contact with immunocompromised individuals.

It can be a false positive in those vaccinated with BCG (especially those under 5 years old).

It can be false-negative in immunosuppression, severe illness, malnutrition, or disseminated TB. The treatment of tuberculous lymphadenitis follows the same principles as that for extrapulmonary tuberculosis. Pulmonary disease sensitive to drugs, but with particularities related to slow clinical response, risk of fistulization and persistent residual mass.

Ultrasound is a first-choice complementary imaging examination and can be... observed: clustered lymph nodes, hypoechoic lymph node with central necrosis, capsular thickening. Adhesion between lymph nodes and adjacent tissues, late calcifications (scarring phase), and/or Peripheral vascularization preserved on Doppler ultrasound.

Treatment is primarily medication-based, with surgery reserved for rare cases. selected cases. The standard duration is 6 months, but it can be extended to 9–12 months in selected cases. complicated (suppuration, immunosuppression, resistance, poor response).

Children under 10 years of age receive the RIP regimen (Rifampicin + Isoniazid + Pyrazinamide) for 2 months followed by 4 months of RI (Rifampicin and Isoniazid), while the Children older than 10 years receive the RIPE regimen (Rifampicin + Isoniazid + Pyrazinamide + Ethambutol) for 2 months followed by 4 months of RI (Rifampicin and Isoniazid). Lymphadenitis Tuberculosis has a significant clinical and social impact due to possible sequelae and prolonged life expectancy. of evolution, diagnostic difficulty and need for prolonged treatment, especially in

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resource-limited locations. Despite its generally benign course when treated, surgery

It can be indicated as:

- ÿ Inconclusive diagnosis (excisional biopsy)
- ÿ Chronic fistula with persistent drainage
- ÿ Cold lymph node with fluctuation > 3 cm
- ÿ Significant aesthetic compromise
- ÿ Documented therapeutic failure

It is important to point out that the reduction in lymph node volume can be slow (weeks to months).
The persistence of hardened lymph nodes does not indicate failure. Late suppuration may occur.
Even after treatment has begun, failure should only be assessed after 3 months without improvement or worsening.
clinic.

The treatment duration may be altered in the following cases:

Lymph node disease with persistent suppuration (treatment time: 9–12 months)

HIV positive and extensive disease or multiple sites (treatment time: 9 months)

Case report

Preschool patient, female, 7 years old, born in Rio de Janeiro, residing in
Guaratiba presented with submandibular edema on September 26, 2025, with intermittent nocturnal fever
(38º - 39ºC). She was initially evaluated by a dentist on September 29, 2025, who prescribed...
The child was given amoxicillin, which she used for 7 days without improvement. The child was re-
evaluated days later by the family clinic doctor, who diagnosed parotitis and prescribed amoxicillin.
Amoxicillin with potassium clavulanate was prescribed for 14 days. At the end of this period, the lesion had
increased in size, and the patient sought treatment at a private clinic on [date].
22/10/2025, being released to go home with a prescription for Cefaclor for 7 days, prednisolone and
ibuprofen. Child returned for treatment at the emergency unit on 10/27/2025 after
After 5 days of taking cefaclor without any sign of improvement, hospital admission was indicated.
diagnostic investigation.

Father reports night sweats, denying contact with tuberculosis patients or blood loss.
ponderal.

On initial physical examination, she presented in good general condition, eutrophic, with the presence
Lymphadenomegaly in the right submandibular region, partially mobile, of fibroelastic consistency and
painless to palpation. Intravenous antibiotic therapy with oxacillin was initiated at a dose of
usual.

Evaluated by the oral and maxillofacial surgery team, who did not identify any involvement.
dental.

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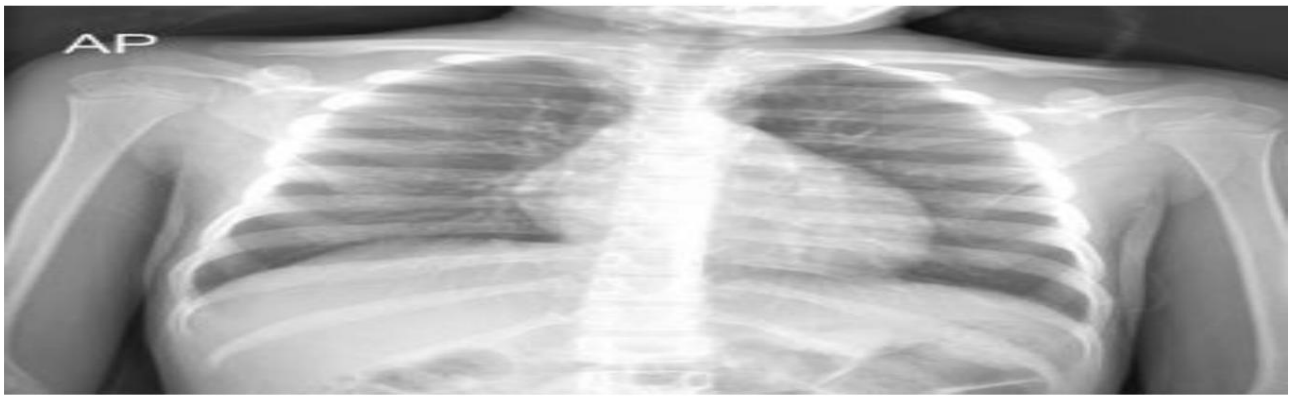
Ultrasound of the cervical region: rounded lymphadenopathy with well-defined borders.
Hypodense and heterogeneous lesion in the right submandibular region measuring 2.7 x 2.2 cm. On Doppler ultrasound,
It presents poor peripheral vascularization (central necrosis?)

CT scan of the face: mass with soft tissue density measuring 2.7 x 2.2 cm in the region
Submandibular to the right, inferior to the parotid gland.

Chest X-ray: normal



Blood count showing Hb of 13.2, leukocytes 8,800 with a predominance of lymphocytes,
platelets 348,000

CRP: 1.6

Renal and hepatic function: values within normal limits.

Amylase: 52 and lipase: 35

Blood culture: negative

Rapid HIV and syphilis test: negative

Serological tests:

cytomegalovirus: IgG reactive / IgM non-reactive

Epstein-Barr: IgG non-reactive / IgM reactive (55 U/ml)

Herpes simplex types 1 and 2: IgG non-reactive / IgM non-reactive

Rubella: IgG positive / IgM non-reactive

Toxoplasmosis: IgG non-reactive / IgM non-reactive

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HIV antireactive: non-reactive

He remained hemodynamically stable, without fever spikes, but with volume /

The characteristics of the lesion remained, without any regression.

On 10/31/25, a PPD test was performed with a reading of 10 mm on 11/03/25.

On 04/11/25, a lymph node biopsy was performed, with the material sent for pathology analysis, as per the report below:

“ Chronic granulomatous inflammatory process with Langhans-type giant cells and central caseous necrosis. Staining for acid-fast bacilli and fungi was negative. The histopathological picture suggests Tuberculosis.

Treatment initiated with the RIP regimen (Rifampicin, Isoniazid, and Pyrazinamide) with Hospital discharge for follow-up at the Family Clinic on 05/11/2025.

Conclusion:

Lymph node tuberculosis in children is a disease that requires diagnosis and treatment. Early intervention is necessary to avoid complications. Diagnosis is a clinical challenge due to the clinical presentation. often subtle. The literature review highlights the importance of including tuberculosis. Ganglionar in the differential diagnosis of lymphadenopathy in protracted cases, during surveillance. Epidemiological and health education strategies are essential for disease control.

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