

Clinical Insights into Tuberculous Lymphadenitis

Elias Tatiane*

Department of Infectious Diseases, Aarhus University, Aarhus, Denmark

DESCRIPTION

Tuberculous lymphadenitis, also known as scrofula or tuberculous adenitis, is a common manifestation of extrapulmonary tuberculosis, primarily affecting the lymph nodes. It occurs when the bacteria *Mycobacterium tuberculosis* infects the lymph nodes, leading to a distinct set of clinical features and symptoms. Understanding these features is crucial for accurate diagnosis and timely intervention.

Clinical presentation

The hallmark feature of tuberculous lymphadenitis is the enlargement of one or more lymph nodes. These nodes typically become palpable and firm, varying in size from a few millimetres to several centimetres in diameter. They are usually painless initially but may cause discomfort as they enlarge and press on surrounding structures. Tuberculous lymphadenitis commonly affects superficial lymph nodes, especially those in the cervical region (neck), which is why it was historically associated with cervical lymphadenopathy and referred to as scrofula. However, it can also involve other regions such as axillary, inguinal, and mediastinal lymph nodes depending on the route of infection. The affected lymph nodes often exhibit certain characteristics that aid in clinical diagnosis. They tend to be discrete, matted (clumped together), and sometimes adherent to overlying skin or underlying structures. The consistency can vary from firm to fluctuant, depending on the stage of the disease and the presence of caseation (cheese-like necrosis). Patients with tuberculous lymphadenitis may present with constitutional symptoms such as low-grade fever, night sweats, fatigue, and unintentional weight loss. These symptoms are nonspecific but can raise suspicion of underlying tuberculosis infection. The disease course of tuberculous lymphadenitis is typically chronic and indolent. Patients may recall a gradual onset of symptoms and progressive enlargement of lymph nodes over weeks to months. Rarely, acute suppurative (pus-forming) lymphadenitis may occur, mimicking acute bacterial infections. Enlarged lymph nodes can exert pressure on adjacent structures, leading to symptoms such as cough (if mediastinal nodes are involved), dysphagia (difficulty swallowing), or hoarseness (if there is

compression of the recurrent laryngeal nerve). These symptoms are more common with large or centrally located nodes.

Diagnostic considerations and treatment

Diagnosis begins with a thorough history and physical examination focusing on lymph node characteristics, location, and associated symptoms. A history of tuberculosis exposure or prior infection is important to elicit. Imaging modalities such as ultrasound, CT scan, or MRI may be utilized to assess the extent of lymphadenopathy, evaluate for caseation or necrosis, and identify any involvement of deeper structures. Definitive diagnosis of tuberculous lymphadenitis requires microbiological confirmation. This involves obtaining tissue samples *via* Fine-Needle Aspiration Biopsy (FNAB) or excisional biopsy for Acid-Fast Bacilli (AFB) smear, culture, and Nucleic Acid Amplification Tests (NAATs) such as PCR.

Histopathological examination of biopsy specimens reveals characteristic granulomatous inflammation with central caseation necrosis surrounded by epithelioid cells, Langhans giant cells, and lymphocytes. Treatment of tuberculous lymphadenitis involves multidrug Antitubercular Therapy (ATT) for a minimum of 6 months, including rifampicin, isoniazid, pyrazinamide, and ethambutol. Surgical excision may be considered in cases of large, persistent, or complicated lymphadenopathy or if there is suspicion of drug resistance. Prognosis is generally favourable with appropriate treatment, although response time can vary. Early diagnosis and initiation of therapy are crucial to prevent complications and transmission to others.

CONCLUSION

Tuberculous lymphadenitis presents with characteristic features including painless lymph node enlargement, commonly affecting cervical nodes, often associated with systemic symptoms like fever and weight loss. Diagnosis requires a combination of clinical evaluation, imaging, microbiological testing, and histopathology. Fast initiation of antitubercular therapy leads to favourable outcomes in most cases, highlighting the importance of early recognition and management of this extrapulmonary manifestation of tuberculosis.

Correspondence to: Elias Tatiane, Department of Infectious Diseases, Aarhus University, Aarhus, Denmark, Email: e.vilac@sheffie.ac.uk

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