CASE REPORT

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Chronic neck lymphadenitis – challenges in the diagnosis of extrapulmonary tuberculosis

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Abstract

Neck lymph node involvement is common in infections caused by various microorganisms, but determining the causative agent can be challenging. The case study details a 58-year-old male with left-sided cervical lymphadenopathy, fever, and weight loss persisting for two years. Despite extensive testing and empirical treatments, the cause remained unidentified. A CT scan revealed numerous enlarged lymph nodes with central necrosis. Histopathological examination suggested granulomatous lymphadenitis, although no bacteria were initially detected. Eventually, acid-fast bacilli were found via Ziehl-Neelsen staining, and Mycobacterium tuberculosis was confirmed through molecular tests. The patient was diagnosed with tuberculosis (TB) and successfully treated with anti-tuberculous therapy. The case highlights the diagnostic challenges of extrapulmonary TB, and underscores the importance of considering TB in atypical presentations, especially given the rise in multidrug-resistant strains.

Key words

tuberculosis, neck lymphadenitis, diagnostic difficulties

INTRODUCTION

Neck lymph node involvement can result from a wide range of factors of infectious origin. The chronic, often subacute clinical picture of infection creates problems in determining the causative agent. Diagnosis with a picture of elevated pro-infective parameters often leads to the need to consider a broad spectrum of microorganisms that may involve localization in the cervical lymph node area in the course of infection. Unfortunately, in some cases it is sometimes difficult to establish a definitive diagnosis, and tuberculous infections are sporadic forms of infection with such a localization [1, 2].

The patient, a 58-year-old farmer, was admitted to the Department and Clinic of Otolaryngology and Laryngological Oncology at the Medical University of Lublin, eastern Poland, with symptoms of left-sided cervical lymphadenopathy, fever and progressive weight loss for two years (Fig. 1). He had been treated in the past for vascular headaches, iron deficiency anaemia, oral and oesophageal candidiasis, and gastritis. The patient was also under observation for psychiatric disorders. Before admission to the Clinic, he had been repeatedly diagnosed in many outpatient clinics and hospital departments without any cause being established for the eventually diagnosed neck lymphadenitis. The differential diagnosis included tests for neoplastic infiltration and infectious diseases: cat scratch, radiation sickness, bartonellosis, toxoplasmosis, tularaemia. Cultures for aerobic and anaerobic bacterial flora and fungi showed no microorganisms. Serological and histopathological examinations performed did not confirm any of the aforementioned diseases.

Fig. 1. Infiltration of the patient's neck on admission to the ENT Department, visible tumour-like lesions on the neck, and traces of previous biopsies

The patient underwent empirical antibiotic therapy with doxycycline and penicillin, without any improvement. While in the clinic, a CT scan was performed (Fig. 2), which showed very numerous, enlarged lymph nodes (up to a maximum of 22 mm) on the left side, in groups I AB, II, III and V AB. Most of the nodes showed features of central necrosis. No tumour or infiltration of a neoplastic nature was found in the soft tissues of the neck. On subjective and physical examination, apart from the described skin lesions, no abnormalities were found.

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Figure 2. CT scan performed on the patient before treatment. An enlarged lymph node with central necrosis is visible on the scan

However, elevated inflammatory parameters were found – CRP protein 61.554 mg/l (0–5), ESR 90/h and subfebrile states. Exploration of the neck was performed and an enlarged lymph node, and an infiltrated piece of skin near the angle of the mandible on the left side were taken for histopathological examination. The result of the examination confirmed fields of geographic necrosis surrounded by inflammatory cells. The morphological picture corresponding to granulomatous lymphadenitis with associated necrosis [3]. No bacteria were found. The inflammatory process deepened. Progression of the inflammatory infiltrate on the neck was shown, a fistula with purulent contents appeared (Fig. 3). From the purulent contents, cultures were performed several times obtaining negative results. Following consultation at the Department of Medical Microbiology at the Medical University of Lublin, a Ziehl-Neelsen stained microscopic slide was made from the collected material, which showed structures similar to mycobacteria. A QuantiFERON – Tb Gold PLUS test was performed on blood collected from the patient, which was positive. The result was confirmed by molecular testing for Mycobacterium tuberculosis. The patient was found to have no tuberculous lesions of any other location than the cervical lymph nodes. Anti-tuberculous treatment was started: Levoxa 1 × 1 500 mg for 2 weeks, Rifampicin 1 × 600. After admission to the Tuberculosis and Lung Disease Sanatorium, for two months: Rifamazide, PZA (Pyrazinamide), EMB (Ethambutol).

Figure 3. Visible leakage of purulent contents from a lesion on the neck

The patient was discharged with treatment with Rifamazid 0.3 1 × 2 caps under the supervision of the tuberculosis outpatient clinic. Figure 4 shows the clinical picture one year after the diagnosis of tuberculosis and inclusion of anti-tuberculous treatment.

Figure 4. Local status one year after the inclusion of treatment, complete regression of the lesion, locally visible surgical scars

Tuberculosis is an infectious disease caused by Mycobacterium tuberculosis, which is localized mainly in the lungs. The course of infection with a different localization often causes great diagnostic difficulties, especially in cases where classical microbiological tests do not indicate a bacterial etiology. In Poland, the number of tuberculosis cases has increased in recent years. In 2021, 3,704 cases of all forms of TB were reported, including 3,553 pulmonary TB cases, and in 2020 – 3,385 and 3,237, respectively. In both years there occurred the same number of TB cases – 151, with extrapulmonary location [4]. Particularly worrying is the information about infections in Poland with multidrug-resistant mycobacteria, which poses a real threat of diagnostically difficult cases not amenable to anti-mycobacterial therapy. Therefore, it is very important to carefully analyze atypical cases of infection, especially with the great diagnostic difficulties and visible picture of progressive deterioration of the patient's condition.

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