

A disseminated nontuberculous mycobacterial infection mimicking lymphoma in an immunocompetent adult

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Introduction: The clinical relevance of nontuberculous mycobacteria (NTM) is increasing worldwide. *Mycobacterium kansasii*, is a slow-growing acid-fast bacillus (AFB), commonly associated with immunocompromised hosts. Recently, we encountered a rare case of disseminated *M. kansasii* infection resembling lymphoma in an immunocompetent adult.

Case: A 70-year-old male with a medical history encompassing persistent atrial fibrillation, prior cerebral infarction, and cholecystectomy was referred to our hospital due to a 5-day history of fever. On physical examination, there were no palpable masses or skin lesions. Immediately after hospitalization, acute pyelonephritis caused by *Escherichia coli* accompanied by acute kidney injury was treated, but the fever persisted. Subsequent computed tomography (CT) of the neck and chest revealed evidence of lymphoproliferative disease, possibly suggestive of lymphoma, while also considering central lung cancer and metastasis as differential diagnoses. A positron emission tomography (PET) scan demonstrated congregated enlarged lymph nodes in the right supraclavicular and mediastinal regions, along with hypermetabolic consolidation in the right lung (Figure 1A). For further evaluation, an ultrasound-guided supraclavicular lymph node biopsy and fine needle aspiration were performed. Ziehl-Neelsen staining of the aspirated specimen showed the presence of acid-fast bacilli graded as 2+ (Figure 1B). The real-time polymerase chain reaction test for NTM was positive. A single urine specimen was positive for mycobacterium culture. The patient was initiated on a regimen of clarithromycin, ethambutol, and levofloxacin to treat the NTM infection. The line probe assay confirmed the strain as *M. kansasii*. Unfortunately, the patient's condition deteriorated due to multi-organ failure during the treatment, ultimately resulting in his demise.

Conclusions: Our case presenting as fever of unknown origin suggests that we can face serious threats from NTM species and should warrant a high clinical suspicion and an immediate need for more advanced infrastructure for its diagnosis.



Figure 1A. Positron emission tomography:

Suspicious enlarged LNs in right SCN, mediastinum with hypermetabolism, and Hypermetabolic consolidation in the right lung, which is suggestive of lymphoproliferative disease

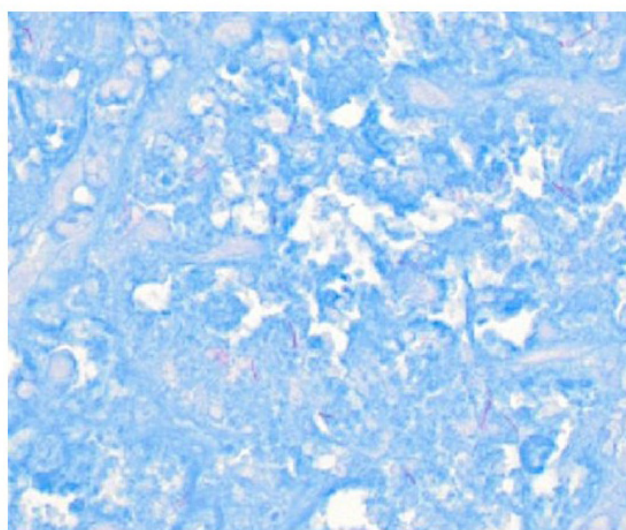


Figure 1B. Fine needle aspiration of supraclavicular lymph node:

Necrotic materials with many acid-fast bacilli on Ziehl-Neelsen stain