

A case of tuberculosis diagnosed with EUS-guided aspiration biopsy

Endoskopik ultrasonografi ile tanısı konan bir mediastinal tüberküloz vakası

To the Editor,

Initial endoscopic ultrasound (EUS) studies for mediastinal abnormalities were often performed by gastroenterologists, who frequently first performed a radial EUS, which provides a 360 degree overview of the para-esophageal area. Once suspected lesions were identified, they were aspirated using linear equipment. As US criteria of lymph nodes alone - such as shape, size, demarcation, and echo-pattern - are not sufficiently accurate to distinguish between benign and malignant status, fine needle aspirations (FNAs) are needed for an accurate assessment (1,2,3). Nodes as small as 4 mm can be aspirated (4), and on-site cytology is advocated in order to assess whether representative material has been obtained (5).

We present here a case of mediastinal mass with a diagnosis of tuberculosis (TB). We performed an EUS-guided aspiration and found tuberculosis bacilli in the microscopic examination.

An 81-year-old man was admitted to the hospital with a high level of cancer antigen (CA)15-3 during his check-up. He had no fever, cough or dyspnea. Laboratory examinations revealed white blood cell count 7026/mm³, hemoglobin 15.5 g/dl (normal: 12-16), platelet count 228,000 mm³ (normal: 130,000-450,000), aspartate aminotransferase 16 U/L (normal: 5-38), alanine aminotransferase 13 U/L (normal: 5-38), alkaline phosphatase 102 U/L (normal: 39-117), and gamma-glutamyl transpeptidase 133 U/L (normal: 7-49). Erythrocyte sedimentation rate was 30 mm. Carcinoembryonic antigen (CEA), CA19-9, and human immunodeficiency virus (HIV) assays were all normal. CA15-3 was 42.9 (normal: 0-31.3). Thorax computed tomography (CT) revealed a 3 cm subcarinal lymphadenopathy that inclu-

ded calcification. There was no parenchymal infiltration or mass lesion on the lung sections. The abdominal CT was normal.

With the patient under conscious sedation with midazolam, we performed a one-step approach for mass sampling using a 3.8 mm working channel linear array echoendoscope (Pentax, Montvale, NJ, USA). We recognized a mass lesion beneath the esophageal wall on the 25th cm of the esophagus. There was a hypoechoic mass with calcification, with a width of 3.5 cm. We performed an aspiration sample with on-site evaluation by a pathologist. The slides were stained with Quick MGG (Bio-Optica, Milan, Italy). The aspiration sample revealed groups of epithelioid histiocytes in a lymphoid and hemorrhagic background (Figure 1). Non-necrotizing granulomas were seen in the sections prepared from cell blocks (Figure 2). The epithelioid histiocytes were CD68-positive immunohistochemically (Figure 3). Ehrlich-Ziehl Neelsen histochemistry revealed only one acid-fast bacillus in the center of a granuloma (Figure 4). Our diagnosis was granulomatous lymphadenitis consistent with TB.

Standard diagnostic methods may occasionally fail to achieve a diagnosis in patients with suspected TB. Linear EUS provides easy access to mediastinal lymph nodes, offering the additional possibility of EUS-FNA for cytology and bacteriology for the diagnosis of suspected TB (6).

Shidrawi et al. (7) analyzed 34 patients with a suspected diagnosis of TB, with enlarged nodes. Cytology revealed epithelioid granulomas on a dirty background suggestive of TB in 22 patients. Myco-

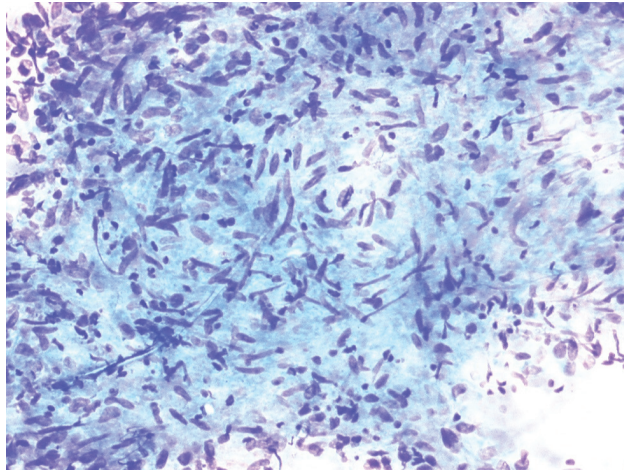


Figure 1. The aspiration sample revealed groups of epithelioid histiocytes in a lymphoid and hemorrhagic background.

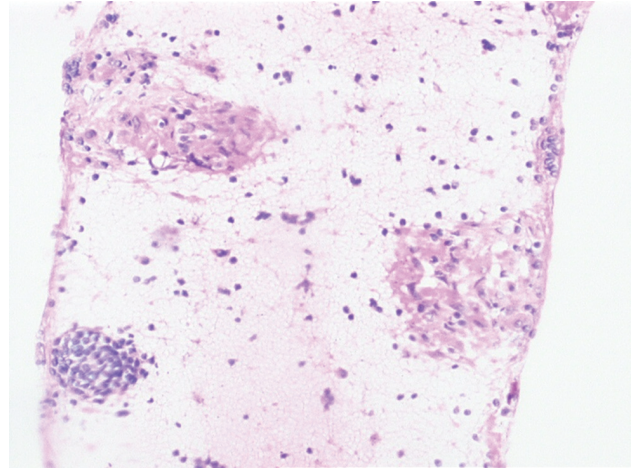


Figure 2. Non-necrotizing granulomas were seen in the sections prepared from cell blocks.

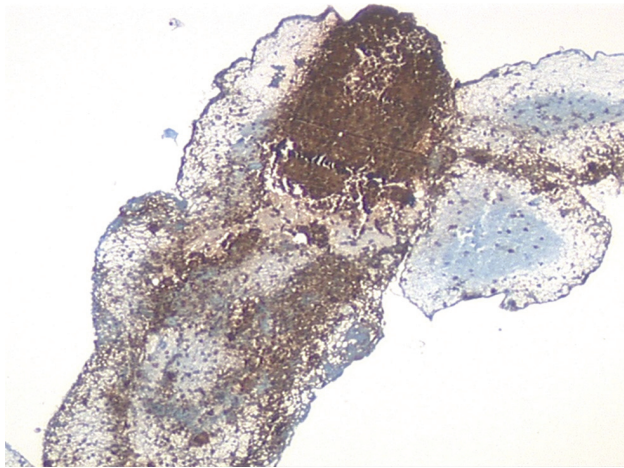


Figure 3. The epithelioid histiocytes were CD68-positive immunohistochemically.

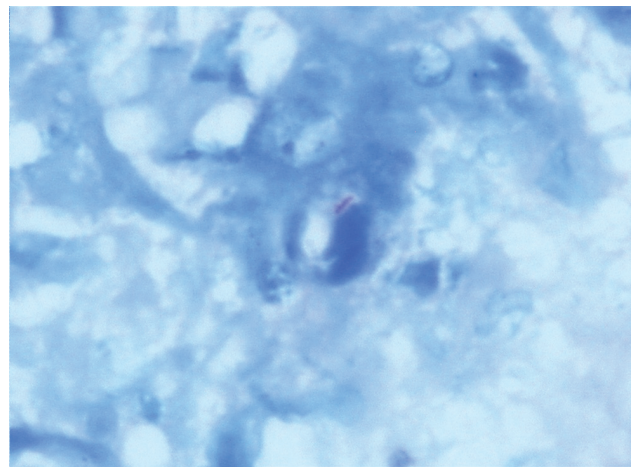


Figure 4. Ehrlich-Ziehl Neelsen histochemistry revealed only one acid-fast bacillus in the center of a granuloma.

bacterial cultures were positive in 15/22 patients with TB. Lymphadenopathy cleared in all patients with TB on cytology under therapy within six months.

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