Leishmaniasis presenting as small isolated mediastinal lymphadenopathy diagnosed by endoscopic ultrasound-guided fine-needle aspiration

Fig. 1 Endoscopic ultrasound image showing two small lymph nodes at the subcarinal window (labeled as 1 and 2). LA, left atrium; PA, pulmonary artery.

Fig. 2 Endoscopic ultrasound image showing needle inside lymph node (fine-needle aspiration procedure).

Fig. 3 Cytopathology image showing numerous *Leishmania donovani* bodies inside and outside histiocytes (Giemsa stain, $\times 100$).

A 41-year-old man from Afghanistan presented with pyrexia of unknown origin and weight loss for 2 months. His work-up revealed anemia (hemoglobin 7.7 g/dL) and leukopenia (2990 cells/ μ L), and he was positive for human immunodeficiency virus type 1 (HIV 1).

A contrast-enhanced computed tomography of the chest and abdomen was performed, and showed small mediastinal lymph nodes with normal abdominal imaging. Endoscopic ultrasound (EUS) of the mediastinal nodes showed a few small nodes at the subcarinal window, the largest of which measured 1.2×0.6 cm. These lymph nodes had defined borders, were triangular in shape, and some had a hyperechoic center suggestive of reactive change (Fig. 1). Fine-needle aspiration (FNA) of a larger lymph node (Fig. 2) was performed because the patient did not want to undergo bone marrow examination. One needle pass with suction was made using an EchoTip 22-gauge needle (Wilson-cook Medical, Winston-Salem, North Carolina, United States). Cytopathology of the lymph node revealed numerous *Leishmania donovani* bodies inside and outside histiocytes (Fig. 3). The patient was offered amphotericin B treatment, but preferred to receive treatment in his home country due to financial difficulties.

This case illustrates the safety of performing EUS-FNA of small lymph nodes in the mediastinum where numerous vascular structures are located, and the importance of obtaining a tissue diagnosis even from small lymph nodes if it is indicated (the present case had pyrexia of unknown origin and immunocompromised status). Autopsy studies of the mediastinum have shown that lymph nodes that are up to 1 cm in the short axis are reactive in nature [1,2]. The present case also demonstrates the limitation of morphological EUS criteria for differentiating between reactive and pathological lymph nodes.

The *Leishmania* parasite can be isolated from bone marrow, spleen, liver, and lymph nodes. Leishmaniasis in HIV-positive patients may present atypically, as in the present case in which no organomegaly was seen [3]. Leishmaniasis presenting as isolated lymphadenitis is rare and should be included in the differential diagnosis in immunocompromised patients [3,4].

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