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Title: The usefulness of endobronchial ultrasound-guided transbronchial needle aspiration for the diagnosis of sarcoidosis

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Body: We evaluated the usefulness of endobronchial ultrasound guided-transbronchial needle aspiration (EBUS-TBNA) for the diagnosis of sarcoidosis in comparison with transbronchial lung biopsy (TBLB), endobronchial biopsy (EBB), and bronchoalveolar lavage (BAL). The consecutive patients who were suspicious for sarcoidosis (stage I and II) on chest radiography and chest computed tomography scan were included in the study. All study patients underwent EBUS-TBNA, TBLB, EBB and BAL at the same session. Between July 2009 and June 2011, 33 patients underwent EBUS-TBNA, TBLB, EBB, and BAL. EBUS-TBNA was performed for 71 lymph node stations. Among these 33 patients, 29 patients were diagnosed as histology proven sarcoidosis and two patients were compatible with clinical diagnosis of sarcoidosis during follow-up. The other two patients were diagnosed as metastatic carcinoma and reactive lymphadenopathy. Among 29 patients with histology proven sarcoidosis in combination with EBUS-TBNA, TBLB, and EBB, only EBUS-TBNA and TBLB revealed non-caseating granuloma in 18 patients and 1 patient, respectively. Overall diagnostic sensitivities of EBUS-TBNA, TBLB, EBB, and BAL (CD4/CD8 ≥3.5) were 90%, 35%, 6%, and 71%, respectively (P<0.001). Combined diagnostic sensitivity of EBUS-TBNA, TBLB, and EBB were 94%. In conclusions, EBUS-TBNA is most sensitive method for the diagnosis of stage I and II sarcoidosis compared with conventional bronchoscopic procedures. EUBS-TBNA could be considered first for the histopathologic diagnosis of stage I and II sarcoidosis.