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**Title:** Xpert MTB/RIF for rapid diagnosis of tuberculous lymphadenitis from endobronchial ultrasound-guided transbronchial needle aspiration specimen

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**Body:** Background: Despite global efforts to control tuberculosis (TB), diagnosis of extrapulmonary TB, especially intrathoracic TB lymphadenitis, remains a challenge. Histology is time-consuming and tissue microscopy after special staining is often negative. Xpert MTB/RIF assay is considered useful for rapid molecular diagnosis of pulmonary TB. However, its use for diagnosing TB lymphadenitis has not yet been widely validated. Objectives: To assess the role of Xpert MTB/RIF in diagnosing intrathoracic TB lymphadenitis from endobronchial ultrasound-guided transbronchial needle aspiration (EBUS-TBNA) specimen. Methods: Twenty-eight patients with enlarged hilar and/or mediastinal lymph nodes who underwent EBUS-TBNA and Xpert MTB/RIF assay using EBUS-TBNA specimens were retrospectively reviewed. Both acid-fast bacilli smear and culture of EBUS-TBNA specimens were performed in all patients. Results: The median age of the patients was 66 years and 54% of the patients were male. Biopsies obtained by EBUS-TBNA showed malignant cells in 9 patients. Among 19 patients in which EBUS-TBNA had not detected malignancy, 3 patients had positive Xpert MTB/RIF tests. Histology for all three patients were sufficient to exclude malignancy but insufficient to confirm TB infection. Tissue smears were negative for all 3 patients and culture was positive for 1 patient. All three patients are being treated with anti-TB medications. Conclusion: In patients with enlarged hilar and/or mediastinal lymph nodes with low suspicion of malignancy, combination of Xpert MTB/RIF assay with histology could lead to early diagnosis and treatment of intrathoracic TB lymphadenitis.