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**Title:** Complications and diagnostic outcome of endobronchial ultrasound (EBUS) guided transbronchial needle aspiration (TBNA) of mediastinal lymph nodes

Dr. King Ying 28974 Wong wky523@ha.org.hk MD <sup>1</sup>, Dr. Lai Yun 28975 Ng nly933@ha.org.hk MD <sup>2</sup>, Dr. Hoi Nam 28976 Tse drhoinam@gmail.com MD <sup>2</sup> and Dr. Wilson K.S. 28977 Yee yeeks@ha.org.hk MD <sup>1,2</sup>. <sup>1</sup> Department of TB & Chest, TWGHs Wong Tai Sin Hospital, Kowloon, Hong Kong and <sup>2</sup> Department of Medicine, Kwong Wah Hospital, Kowloon, Hong Kong .

**Body:** Background: EBUS guided TBNA enables tissue sampling of mediastinal lymph nodes with sensitivity and specificity comparable to mediastinoscopy in nodal staging of lung cancer. It is generally safe but not without complications. Objectives: We studied the complications and diagnostic outcome of EBUS-TBNA performed under local anaesthesia and conscious sedation using intravenous midazolam and pethidine in the endoscopy suites. Methods: We retrospectively studied consecutive EBUS examinations performed over 28 months since July 2008. Pathology and clinical follow-up data till end of 2010 were reviewed. Results: Totally 110 EBUS -TBNA were performed in the study period. Complications occurred in 21 (19%) patients. Difficulty in conscious sedation accounted for the majority (12 patients, 11%) including oversedation requiring antidotes (2), failed sedation (2) and one struggling patient leading to probe damage. Other complications included moderate bleeding of 15cc blood loss (2), bronchospasm (2), fever (1), pneumonia (1), paroxysmal atrial fibrillation (1). No long term adverse effect was found after EBUS-TBNA. Among 80 patients referred for nodal staging of lung cancer, 131 lymph nodes were sampled, resulting in 53 true positives, 20 true negatives, 7 nondiagnostic TBNA. The sensitivity of EBUS-TBNA for diagnosing metastatic lymph node disease was 88.3% and the specificity was 100%. The diagnostic yield of EBUS-TBNA was 68% in 30 patients with inflammatory diseases including tuberculosis. Conclusion: EBUS-TBNA is a safe procedure with reasonable diagnostic value and its complications were mostly associated with conscious sedation.