Introduction: Endobronchial ultrasound-guided transbronchial needle aspiration (EBUS-TBNA) is a safe mini-invasive procedure for the assessment of mediastinal lymph nodes and masses. The aim of this study was to assess the diagnostic yield of EBUS-TBNA in two French institutions.

Methods: 472 consecutive patients undergoing EBUS-TBNA between August 2006 and May 2013 were retrospectively included. Clinical and cytological data were reviewed. Factors associated with higher diagnostic yield were assessed by univariate analysis.

Results: EBUS-TBNA was performed for the aetiological diagnosis of lymph nodes (53.6%), for lung cancer staging (12.3%), for the diagnosis and staging of a thoracic (9.1%) or extra-thoracic (1.9%) malignancy, for the diagnosis of the relapse of a thoracic (12.9%) or extra-thoracic (10%) malignancy, or to obtain material for molecular analysis (0.2%). 1.81±0.97 (mean ±SD) nodal stations were assessed, with a mean number of needle aspiration of 4.2±1.2 (mean ±SD).

EBUS-TBNA procedures were achieved under local anaesthesia (6%), deep sedation (61%) or general anaesthesia (33%). Specimen aspiration was suitable for cell block processing in 275 procedures (60%).

Cytological analysis was informative in 95% of the procedures, including 290 malignancies and 160 normal or benign lymph nodes (including 44 sarcoidosis and 3 tuberculosis). The diagnostic yield was higher in malignancies (314/323 vs. 136/149; p=0.008, Chi2 Test), larger lymph nodes (16.32 ± 6.87 mm ; p=0.006), when cell block was available (272/275 vs. 173/192; p<0.001, Chi2 Test), when a higher number of punctures were performed (3 or more punctures vs. < 3 punctures ; p<0.001, Chi2 Test) and in procedures under deep sedation or general anaesthesia vs. local anaesthesia (426/442 vs. 23/29; p=0.001, Chi2 Test).

EBUS-TBNA sensitivity and specificity were 94% and 99% respectively. Positive and negative predictive values were 100% and 81% respectively. When EBUS-TBNA was performed for lymph node staging in lung cancer, c-TNM were confirmed in 50% cases, upstaging occurred in 4% and downstaging in 46%. A surgical procedure was avoided for 83% patients, and mediastinoscopy was avoided for 63% patients undergoing EBUS-TBNA for mediastinal staging.

Conclusion: EBUS-TBNA is a reliable procedure with a high diagnostic accuracy for the assessment of mediastinal lymph nodes and masses.