Feasibility of EBUS-TBNA for histopathological and molecular diagnostics of NSCLC - a retrospective single-center experience

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Conclusion

EBUS-TBNA cytology aspirate is appropriate for simultaneous diagnosis, subtyping and genetic profiling of NSCLC

Background

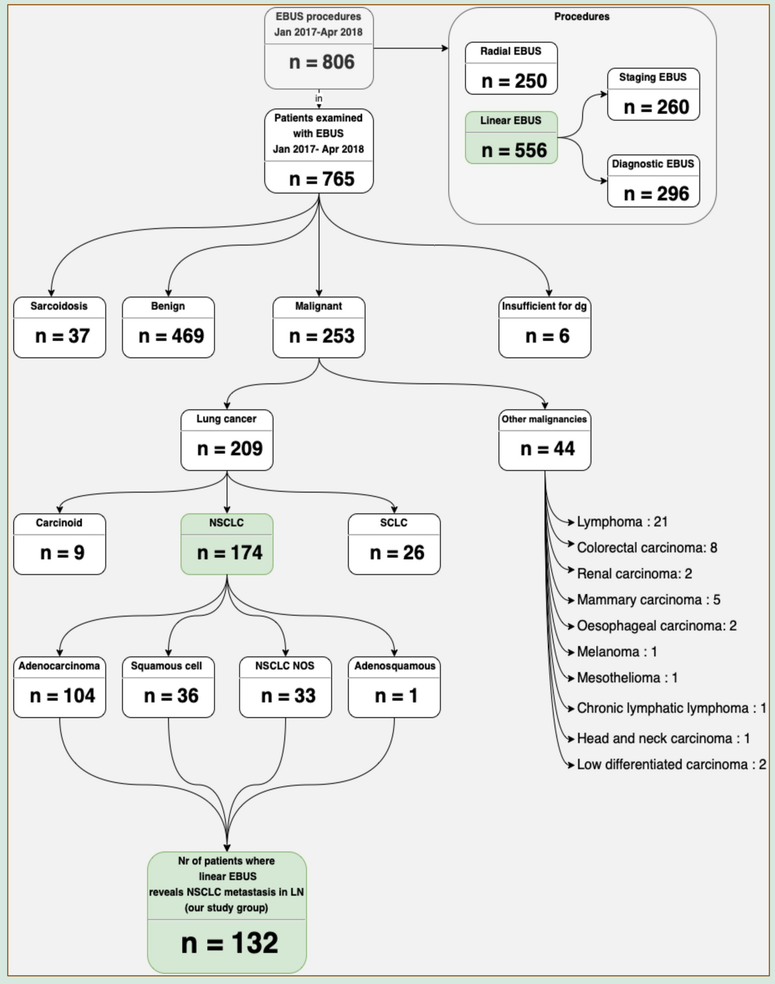
Endobronchial ultrasound-guided transbronchial needle aspiration (EBUS-TBNA) is a minimally invasive bronchoscopic procedure, modality of first choice for diagnosis and staging of non-small cell lung cancer (NSCLC).

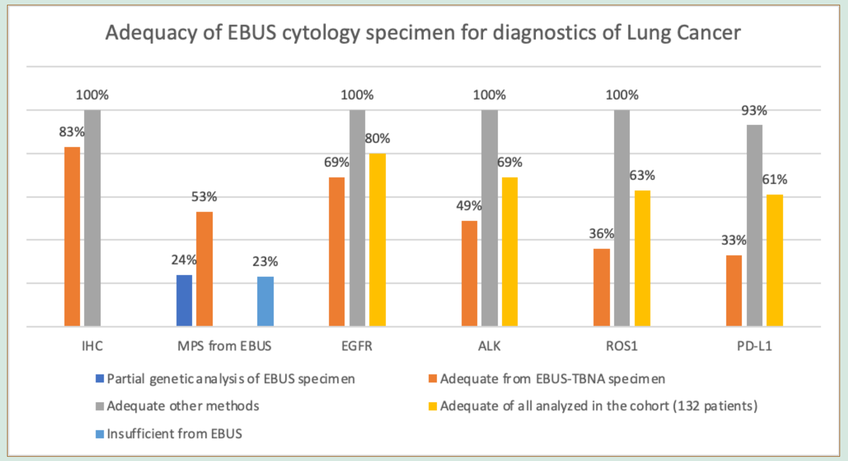
Modern therapeutic decisions for advanced NSCLC require comprehensive profiling of actionable mutations, which is currently considered to be an essential part of the diagnostic process.

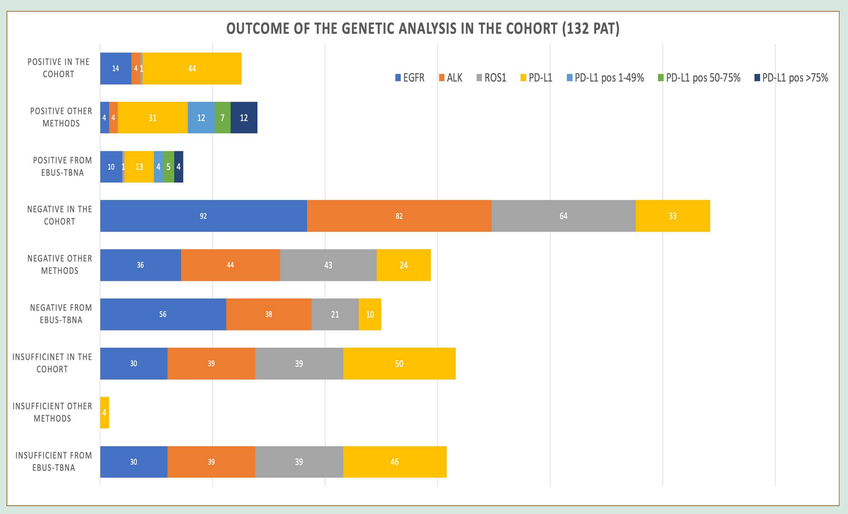
Methods

A retrospective review of 806 EBUS bronchoscopies resulted in a cohort of 132 consecutive patients with EBUS-TBNA specimens showing NSCLC cells in lymph nodes.

Data on patient demographics, radiology features of the suspected tumor and mediastinal engagement, lymph nodes sampled, the histopathological subtype of NSCLC, and performed molecular analysis were collected.







Results

The EBUS-TBNA specimen proved sufficient for subtyping NSCLC in 83% and analysis of treatment predictive biomarkers in 77% (MPS in 53%). The adequacy of the EBUS-TBNA specimen was 69% for *EGFR* gene mutation analysis, 49% for analysis of *ALK* rearrangement, 36% for *ROS1* rearrangement, and 33% for analysis of PD-L1.

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