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# Utility of endobronchial ultrasound-guided transbronchial needle aspiration liquid-based cytology in the diagnosis and staging of lung cancer: a single center study

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# Background

- Endobronchial ultrasound-guided transbronchial needle aspiration (EBUS-TBNA) is a preferred procedure for the diagnosis and staging of lung cancer.
- Diagnostic role of liquid-based cytology (LBC) compared to conventional method in EBUS-TBNA is controversial.
- Herein, this study compared the diagnostic yield of LBC and conventional smear (CS) of EBUS-TBNA in detection of lung cancer cells.

# Method

- A total of 92 puncture sites including main mass and mediastinal lymph nodes were retrospectively analyzed in 45 histologically confirmed lung cancer patients who underwent EBUS-TBNA between April 2021 and August 2022.
- The histopathological result of TNBA tissue or cell blocks was considered as the gold standard and compared with the results of LBC and CS.

# Result

- Histopathological diagnosis were adenocarcinoma (n=26), squamous cell carcinoma (n=7), small cell carcinoma (n=10), large cell carcinoma (n=1), and carcinoma of unknown origin (n=1).

	Histopathology	Liquid Based Cytology	Conventional Smear
Diagnostic positive rate	47.9%	35.9%	45.7%
Sensitivity		70.5%	90.9%
Specificity		95.8%.	95.8%.
Positive predictive value		93.9%	95.2%
Accuracy		82.7%	93.5%

# Conclusion

- Diagnostic yield of LBC in EBUS-TBNA is slightly lower than CS for diagnosis and staging of lung cancer.
- However, EBUS-TBNA LBC still could be considered as an alternative specimen preparation method.