

Is there any difference between the order of obtaining cell blocks and smears through EBUS-TBNA? A comparative study

Top Author: **Ozan Usluer**

*Thoracic Surgery, Izmir Dr Suat Seren Chest Disease and Thoracic Surgery
Training and Research Hospital*

Turkey

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Background: Endobronchial ultrasound with real-time transbronchial needle aspiration (EBUS-TBNA) samples are evaluated with standard conventional smears and cell block processings. The aim of this study is the contribution and comparison of conventional smears and cell block analysis to the diagnostic yield into two different techniques.

Methods: In this study we evaluated the diagnostic value and validity of preparing smear and cell blocks from EBUS-TBNA cytology specimens in different orders. The patients were divided into two groups. Group A consisted of patients of which a cell block was prepared firstly and a smear after where group B consisted of patients of which a smear was prepared firstly and cell block after. The procedures were performed under intravenous sedation. Confirmation of the lymph node sampling was obtained by cytology, surgical procedures, and clinical follow-up for at least 6 months.

Results: Two-hundred consecutive cases (151 men, 49 women) who were performed EBUS-TBNA between 2012 and 2013. A hundred EBUS procedures; 715 biopsies (average 7.15 for each patient, in 3-12 range) were applied to 274 lymph nodes (average 2.74 for each patient, in 1-5 range) in Group A, 100 procedures and 635 biopsies (average 6.35 for each patient, in 1-12 range) were applied to 261 lymph nodes (average 2.61 for each patient, in 1-4 range) in Group B. In group A; 4/100 of the patients were evaluated as histopathologically false negative after surgical confirmation, against 5/100 of patients in group B. In the histopathological examination revealed a reactive hyperplasia in 47 and 38, neoplastic disease in 34 and 36, granulomatous diseases in 14 and 20 (tuberculosis compatible in 3 and 1 cases) and a suspicious malignant disease in groups A and B, respectively. The pathologists evaluated diagnostic value of the cytologic specimens as the presence of lymphocytes, pigmented macrophages, histiocytes clusters, and neoplastic cells. There were no deaths or any major complications.

Conclusions: The results of this study demonstrate that the order of obtaining smears and cell blocks during EBUS-TBNA does not result any difference in the diagnostic accuracy of the procedure. Both of these two techniques are feasible and useful for cytologic smear and cell block preparation and examination.

Keywords: Endobronchial ultrasound, mediastinal lymph node, smear, cell block, diagnostic value.