

The Utility of Sonographic Features of Lymph Nodes during EBUS-TBNA for Predicting Malignancy

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Abstract : In countries with the highest prevalence of tuberculosis, such as Iran, the differentiation of malignant tumors from non-malignant is very important. In this study, which was conducted for the first time among the Iranian population, the utility of the ultrasonographic morphological characteristics in patients undergoing EBUS was used to distinguish the non-malignant versus malignant lymph nodes. The morphological characteristics of lymph nodes, which consist of size, shape, vascular pattern, echogenicity, margin, coagulation necrosis sign, calcification, and central hilar structure, were obtained during Endobronchial Ultrasound-Guided Trans-Bronchial Needle Aspiration and were compared with the final pathology results. During this study period, a total of 253 lymph nodes were evaluated in 93 cases. Round shape, non-hilar vascular pattern, heterogeneous echogenicity, hyperechogenicity, distinct margin, and the presence of necrosis sign were significantly higher in malignant nodes. On the other hand, the presence of calcification and also central hilar structure were significantly higher in the benign nodes (p -value < 0.05). Multivariate logistic regression showed that size >1 cm, heterogeneous echogenicity, hyperechogenicity, the presence of necrosis signs and, the absence of central hilar structure are independent predictive factors for malignancy. The accuracy of each of the aforementioned factors is 42.29 %, 71.54 %, 71.90 %, 73.51 %, and 65.61 %, respectively. Of 74 malignant lymph nodes, 100% had at least one of these independent factors. According to our results, the morphological characteristics of lymph nodes based on Endobronchial Ultrasound-Guided Trans-Bronchial Needle Aspiration can play a role in the prediction of malignancy.

Keywords : EBUS-TBNA, malignancy, nodal characteristics, pathology

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