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Clinical performance of endobronchial ultrasound-guided transbronchial needle aspiration for assessing programmed death ligand-1 expression in nonsmall cell lung cancer.

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Background:

Pembrolizumab was recently approved as a first line agent for metastatic NSCLC in patients with high programmed death-ligand 1 (PD-L1) expression.

Objetives:

Since a significant portion of lung cancer is diagnosed by endobronchial ultrasound-guided transbronchial needle aspiration (EBUS TBNA); there is a need for PD-L1 testing in these specimens. However, to date few studies have evaluated performance of cytology specimens from EBUS TBNA for PD-L1 analysis.

Methods:

Patients who had a diagnosis of NSCLC and in whom ancillary testing, i.e., next generation sequencing (NGS), anaplastic lymphoma kinase (ALK), and PD-L1 expression was requested between January and May 2017 were reviewed.

RESULTS:

Fifty of the 112 patients reviewed had the diagnosis of NSCLC for which ancillary testing was requested. Twelve patients (24%) had squamous cell carcinoma, twenty-seven had adenocarcinoma (54%), five had NSCLC favor adenocarcinoma (10%), two had NSCLC favor squamous cell cancer (4%), and four had NSCLC not otherwise specified (NOS) (8%). Size of the lymph nodes or lesion sampled ranged from 10 to 50 mm. Four (8%) patients had insufficient number of tumor cells in the cell block for any of the ancillary molecular testing. Forty-one (82%) patients had an adequate sample for all three ancillary tests. Satisfactory results for PD-L1 expression for all cases was 86% with 14 (32%) patients having levels of PD-L1 expression >50%.

CONCLUSION:

EBUS TBNA is effective and has a high proportion of satisfactory results for testing PD-L1 expression on tumor cells in addition to NGS and ALK FISH.