Abstract Group: 11.1. Lung Cancer

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Title: Patient and procedure determinants of EBUS-TBNA accuracy in mediastinal staging of lung cancer

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Body: AIM: To determine patient and procedure-related determinants of an accurate mediastinal node sampling procedure with EBUS-TBNA for the identification of stage I-IIp NSCLC. METHOD: Stage I-IIc consecutive patients with a final diagnosis of NSCLC staged with EBUS-TBNA and with an available surgical gold-standard (mediastinoscopy and/or node dissection) diagnosed in six hospitals were included. False negative (FN) results were calculated using the results of postsurgical staging. RESULTS: FN results for N2 disease were found in 30/179 patients (16.8%) (19 reachable, 10 non-reachable, 1 both). FN were found in 1/41 patients with representative 4R, 4L and 7 samples showing a nonmalignant cytology (2.4%), in 11/62 with two ipsilateral regions representative (17.7%), and in 18/76 with ≤1 ipsilateral regions representative (23.7%) (p=0.013). In patients with a normal mediastinum at PET-TC who had representative and negative 4R, 4L and 7 samples, FN were found in 1/28 cases (3.6%), in 3/33 cases when adequate samples were obtained from two ipsilateral regions (9.1%), and in 6/42 cases when only ≤1 ipsilateral regions were representative (14.3%) (p=0.329). In a multivariate model with tumor type, size and localization, increasing the number of mediastinal regions sampled and representative with EBUS-TBNA persisted as the main protective factor of a FN result (OR 0.46, 95% CI 0.28-0.76, p=0.003). CONCLUSION: EBUS-TBNA has a false negative rate over fifteen percent that is minimized to a figure below 5% only when negative and representative samples of regions 4R, 4L and 7 are obtained. When this requirement is fulfilled, EBUS-TBNA can be followed by therapeutic surgery without additional procedures.