

Pleural Touch Preparations and Direct Visualization of the Pleura during Medical Thoracoscopy for the Diagnosis of Malignancy.

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Abstract

RATIONALE: During diagnostic thoracoscopy, talc pleurodesis after biopsy is appropriate if the probability of malignancy is sufficiently high. Findings on direct visual assessment of the pleura during thoracoscopy, rapid onsite evaluation (ROSE) of touch preparations (touch preps) of thoracoscopic biopsy specimens, and preoperative imaging may help predict the likelihood of malignancy; however, data on the performance of these methods are limited.

OBJECTIVES: To assess the performance of ROSE of touch preps, direct visual assessment of the pleura during thoracoscopy, and preoperative imaging in diagnosing malignancy.

METHODS: Patients who underwent ROSE of touch preps during thoracoscopy for suspected malignancy were retrospectively reviewed. Malignancy was diagnosed on the basis of final pathologic examination of pleural biopsy specimens. ROSE results were categorized as malignant, benign, or atypical cells. Visual assessment results were categorized as tumor studding present or absent. Positron emission tomography (PET) and computed tomography (CT) findings were categorized as abnormal or normal pleura. Likelihood ratios were calculated for each category of test result.

RESULTS: The study included 44 patients, 26 (59%) with a final pathologic diagnosis of malignancy. Likelihood ratios were as follows: for ROSE of touch preps: malignant, 1.97 (95% confidence interval [CI], 0.90-4.34); atypical cells, 0.69 (95% CI, 0.21-2.27); benign, 0.11 (95% CI, 0.01-0.93); for direct visual assessment: tumor studding present, 3.63 (95% CI, 1.32-9.99); tumor studding absent, 0.24 (95% CI, 0.09-0.64); for PET: abnormal pleura, 9.39 (95% CI, 1.42-62); normal pleura, 0.24 (95% CI, 0.11-0.52); and for CT: abnormal pleura, 13.15 (95% CI, 1.93-89.63); normal pleura, 0.28 (95% CI, 0.15-0.54).

CONCLUSIONS: A finding of no malignant cells on ROSE of touch preps during thoracoscopy lowers the likelihood of malignancy significantly, whereas finding of tumor studding on direct visual assessment during thoracoscopy only moderately increases the likelihood of malignancy. A positive finding on PET and/or CT increases the likelihood of malignancy significantly in a moderate-risk patient group and can be used as an adjunct to predict malignancy before pleurodesis.