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Rapid on-site cytologic evaluation during endobronchial ultrasound-guided transbronchial needle aspiration for diagnosing lung cancer: A randomized study
Masahiko Oki1, Hideo Saka1, Chiyoe Kitagawa1, Yoshihito Kogure1, Naohito Murao1, Misaki Ryuge1, Takashi Adachi1, Saori Oka1, Rie Tsuboi1, Masahiko Ando2, Department of Respiratory Medicine, Nagoya Medical Center, Nagoya, Japan, 2Department of Kyoto University Health Service, Kyoto University, Kyoto, Japan

Introduction: Although rapid on-site cytologic evaluation (ROSE) is widely used during endobronchial ultrasound-guided transbronchial needle aspiration (EBUS-TBNA), its utility remains unknown.

Aims and objectives: The purpose of the present study was to evaluate the efficacy of ROSE during EBUS-TBNA in the diagnosis of lung cancer.

Methods: One hundred twenty patients with highly suspected lung cancer who had hilar/mediastinal lymphadenopathy or a tumor adjacent to the central airway were enrolled in this study and randomized to undergo EBUS-TBNA with and without ROSE.

Results: Twelve patients with viable endobronchial lesions were excluded in the analysis. Thus, a total of 108 patients (55 in ROSE group; 53 in non-ROSE group) were included in the analysis. Additional procedures including EBUS-TBNA for other lesions and/or transbronchial biopsy were performed in 11% of patients in the ROSE group and 57% in the non-ROSE group (P < 0.001). Mean bronchoscopy time was similar in both groups (22.3 vs. 22.1 minutes, p = 0.95). The sensitivity and accuracy for diagnosing lung cancer were 88% and 89% in the ROSE group, and 86% and 90% in the non-ROSE group, respectively.

Conclusion: Although ROSE during EBUS-TBNA can reduce the puncture number or eliminate the need for additional bronchoscopic procedures, it is not associated with the total bronchoscopy time or diagnostic accuracy in patients with suspected lung cancer.

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A way to optimize efficiency of endobronchial ultrasound-guided transbronchial needle aspiration (EBUS-TBNA): Evaluation of the aspiration on site by a non-pathologist – Results on a monocentric study about 98 procedures
Isabelle Rault1, Florence Le Meunier2, Coraline Hybik1, Houcine Bentayeb1, Marie Boumont1, Emmanuelle Lecuyer1, Remi Suganenot1, Patrick Dunon1, Faouzi Amri1, Claire Andrejak2, Vincent Jounieaux2, Sophie Carton2, Youssef Donadi1, Charles Daven1, 1Pneumology Unit, Saint Quentin Hospital, Saint Quentin, France, 2Pneumology Unit, Amiens Hospital, Amiens, France, 3Pathology Unit, Saint Quentin Hospital, Saint Quentin, France

Background: EBUS-TBNA is now an usual technique in the diagnosis of mediastinal adenopathy. To have the best degree of performance in the diagnosis, the number of needle-aspirations must be not less than three. The length of this technique and the number of sites to evaluate are some difficulties of EBUS-TBNA, particularly with loco-regional anesthesia. To improve the diagnosis and reduce the number of procedures, some authors describe the use of a pathologist on site.

Objectives: Optimize the efficiency of EBUS-TBNA by a non-pathologist.

Methods: We realize a study about patients who get an EBUS-TBNA in 2011. On each of them, our nurses were asked to evaluate the efficiency of the EBUS aspiration through the macroscopic aspect of the sample. The nurses’ responses (RON) were: needle-aspiration negative or needle-aspiration positive. Nurses’ on site evaluations were compared with the final diagnosis obtained by the cytologist (ROC).

Results: 98 patients (72 men and 26 women) were included in this study. We realized 536 needle aspirations. The most often punctured areas were 7 (66/156, 42%) and 4R (34/156, 21.8%). Lung cancer was diagnosed in 52 of the 98 patients (53%) with most often adenocarcinoma (32/52).

We found 85.8% of correlation between RON and ROC.

Conclusion: On site evaluation by a non pathologist may optimize efficiency of EBUS-TBNA and is cost-effectiveness.
cancer. In five cases the tissue was obtained by transbronchial forceps biopsy, in the other five by transbronchial needle aspiration (TBNA). Samples were treated with bisulfite, excluding the unmethylated SHOX2 DNA from amplification. A real-time PCR duplex assay was then used to quantify the amount of DNA on one hand and the number of methylated SHOX2 gene copies on the other hand. Finally the DNA methylation level of SHOX2 was determined relative to the number of methylated SHOX2 gene copies to the total amount of DNA. DNA was successfully extracted and analysed by real-time PCR duplex assay in all samples. Valid measurements of SHOX2 DNA methylation level could be achieved in all samples, as well.

Endobronchial ultrasound guided biopsy as a minimal invasive method followed by real-time PCR is an applicable procedure to analyse SHOX2 DNA methylation level in mediastinal lymph nodes of lung cancer patients. These outcomes allow comparing SHOX 2 DNA methylation level in patients suspected to have lung cancer in further studies. DNA methylation level of SHOX2 has the potential to be a useful biomarker in lung cancer.

3259 Initial experience in endobronchial and endoscopic ultrasound-guided fine needle aspiration in the same procedure
Salvador de la Torre Curazo1, Ricardo García-Luján1, Rodrigo Alonso1, Mercedes Molina Escudero2, Beatriz Arias Arcos1, Núria Alberny1, Eduardo de Miguel Poch3, Pneumonology, Hospital 12 de Octubre, Madrid, Spain; 1Pathology, Hospital 12 de Octubre, Madrid, Spain

Introduction: Current paper shows usefulness of a combined endobronchial and endoscopic ultrasound-guided fine needle aspiration (EBUS-FNA and EUS-FNA) of mediastinic adenopathies in a tertiary hospitals bronchoscopy unit.

Methods: Descriptive, prospective study of all the coexistbronchoscopic procedures done May 2011-January 2012. EUS-FNA was performed when no endobronchial accessible biopsies or its aspiration considered non representative by rapid onsite evaluation. Mediatincoascopia was performed when no diagnosis was yield with the endobronchoscopic tissue.

Results: 54 patients underwent a bronchoscopic procedure in that period. In 9 cases EUS-FNA was performed (16.7%). Region 7 in 4 cases and 4L in 5 cases were sampled. In every case we started with an EBUS exploration: 5 of them were non representative with EBUS-FNA and in 4 cases no accessible adenopathies were found with EBUS-FNA yielded the following diagnosis: 3 non Hodgkin lymphomas, 2 lymphoid hyperplasia with atrophy (with posterior mediatincoascopies in which no evidence of malignancy was proven). 1 epidermoid lung cancer, 1 colorectal carcinoma’s metastasis, 1 sarcoidosis and 1 secondary amyloidosis. Every EUS-FNA was representative and no technique complications were described.

Conclusion: Every case in which EUS-FNA was performed, was diagnostic, no false negatives were observed. This suggests that EUS-FNA done in the same procedure is beneficial in those procedures in which EBUS-FNA does not yield a conclusive diagnosis.

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3261 Combined endobronchial staging and endosonographic staging using strict guidelines in restaging of the non-small-cell lung cancer in the real world, do we still need both?
Eric (HFM) van der Heijden1, Ad F.T.M. Verhagen1, Olga C.J. Schuurbers1
1Pulmonary Diseases, Radboud University Medical Center, Nijmegen, Netherlands; 2Cardiothoracic Surgery, Radboud University Medical Center, Nijmegen, Netherlands

Introduction: The combination of EUS- and EBUS-FNA is an accurate preoperative staging method in NSCLC, challenging the status of mediastinoscopy (CM) as the gold standard. In a recent RCT combined endobronchoscopic staging (CES) had greater sensitivity compared to CM. After negative CES, a CM had to be performed in 11 patients to find one positive result [Annema JAMA 2010]. Defranchi [Erjefalt [CMJ 2010] found a NNT of 3.6 and Tournoy [ERS 2011] presented a NNT near infinite in imaging negative and lymphocyte positive CES samples. Our goal was to assess the need to perform a CM after negative CES in our center.

Patients and Methods: Records of 100 consecutive patients with negative CES referred for CM or surgery between January 2009 and June 2011 were analysed. All patients were treated in strict accordance with national guidelines: preoperative CES mediastinal staging is performed in all patients with potentially resectable NSCLC and mediastinal nodules with short axis ≥ 10 mm on CT scan, PET-positive mediastinal or hilar nodes and/or centrally located tumors. If found negative CES is followed by CM.

Results: Of 100 CES negative patients 82 underwent CM and 18 a thoracotomy as next step procedure in which N2+ nodes were found in 11 patients to find one positive result [Annema JAMA 2010]. Defranchi [Erjefalt [CMJ 2010] found a NNT of 3.6 and Tournoy [ERS 2011] presented a NNT near infinite in imaging negative and lymphocyte positive CES samples. Our goal was to assess the need to perform a CM after negative CES in our center. After negative CES negative patients understudied 371 patients. N2+ nodes were found in 75% of cases. A total of 21 patients were found N2 positive after negative CES (NVP 79%). The NPV of CM after negative CES is 89%.

Conclusion: Endosonographic mediastinal staging using strict guidelines is reliable and accurate. In our center one patient with tumor positive mediastinal lymph nodes can be found by CM after negative CES procedures in (suspected) NSCLC.