Endobronchial Ultrasound and Transbronchial Needle Aspiration EBUS-TBNA: Experience in Fundación Valle del Lili, a University Hospital of Reference in Latin America

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Introduction

Endobronchial Ultrasound and Transbronchial Needle Aspiration (EBUS-TBNA) is a minimally invasive technique, well tolerated, cost efficient, for real time visualization of the airways with ultrasound and for sampling the mediastinum and hilum, its indications: diagnosis, staging, restaging of lung cancer, evaluation of metastatic lesions and non malignant diseases. It requires multidisciplinary evaluation with image analysis, general condition of the patient, risks and benefits, also close work with pathology, performing a Rapid On Site Evaluation (ROSE) to improve the diagnostic performance. Objective: To describe the experience with EBUS-TBNA in Fundación Valle del Lili (FVL).

Methods

Prospective, descriptive study, period Mayo/2012-Mayo/2014. The indications were staging and restaging of lung tumors, diagnosis of lung or mediastinal masses, abnormal ganglia in CT or PET/CT equal or greater than 1cm. 65 patients were evaluated in endoscopy under anesthetic control. The equipment used was Olympus® bronchoscope + US probe + 22G FNA.

Results

The quality of the sample was adequate in 97% (63), malignant lesion in 84% (53), adenocarcinomas in 40%, squamous cell carcinoma 17%. 80% of the smears with Diff-Quick staining presented lesion, 5 dips were performed in each station, and immunohistochemistry was made in cellblocks as well as DNA extraction for EGFR mutation studies and EML4/ALK gene rearrangements. 7% of the series was taken to mediastinoscopy (Table 1).

Discussion

EBUS-TBNA is in the present the recommended technique for lung cancer mediastinal staging, our results adjust to international results, it is safe, minimally invasive, in many cases an outpatient procedure and a good performance when accompanied with ROSE.

Table 1. On Site Diagnosis versus Definitive Diagnosis EBUS

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>On-site (63)</th>
<th>Definitive (63)</th>
<th>Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malignant</td>
<td>53 (84)</td>
<td>53 (84)</td>
<td>Base liquid cellblock</td>
</tr>
<tr>
<td>Benign</td>
<td>10 (16)</td>
<td>10 (16)</td>
<td>Base liquid cellblock</td>
</tr>
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Figure 1. A. Patient with history of kidney transplantation with multiple nodular lung lesions, low paratracheal and subcarinal adenopathies. B. EBUS-TBNA from subcarinal area. C. H&E staining for metastatic clear cell carcinoma. D. RCC antibody (IHQ) which confirms a renal primary origin.

Figure 2. A. PET-CT in a patient with lesion in LIL and unique nodal subcarinal lesion. B. EBUS real-time puncture of the subcarinal adenopathy. C. Nuclear expression of the gene p63 (IHQ), squamous cell carcinoma.