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Title: Endobronchial ultrasound transbronchial needle aspiration at Aberdeen Royal Infirmary: How are we doing?

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Body: Background: Endobronchial ultrasound transbronchial needle aspiration(EBUS-TBNA) is a more convenient alternative to mediastinoscopy for sampling mediastinal lymph nodes. We describe the demographics, results and diagnostic sensitivity of EBUS-TBNA in the 1st 100 procedures performed. Methods: Since the service began in 2010, patient age, gender, length of procedure, sedative doses, numbers of passes for each node and results were recorded and retrospectively analysed. Results: Of 100 patients, 66 were male with mean age 62 years (range 22-88). Mean procedure duration was 16 minutes, and median doses of midazolam and fentanyl were 4mg and 100mcg respectively. 142 lymph nodes were sampled with median number of passes of 4 per node. Lymphoid material was obtained from 126 (86%) of all nodes sampled. A pathological abnormality was found in 73 patients: NSCLC (n=34), SCLC (n=20), granulomatous inflammation (n=14), possible lymphoma (n=1) and metastatic neck (n=1), urological (n=2) and breast cancer (n=1). In the remaining 27 patients, no lymph node was sampled in 10 and lymph node was sampled in 17 cases with no abnormality noted; of the latter, 9 were true negatives. The diagnostic sensitivity for all 100 cases was 81% (77% in the first 50 procedures versus 84% in the remainder). Conclusions: A variety of cell types can be identified using EBUS-TBNA. Our overall diagnostic sensitivity was 81% with the top of the learning curve almost reached after 50 procedures. The high diagnostic sensitivity implies that many mediastinoscopies can be avoided with potential financial savings.