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Title: Combined ultrasound-guided needle aspiration in restaging of the non-small-cell lung cancer – A three years experience

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Body: Objectives: The aim of the prospective study was to assess the diagnostic yield of the combined approach – endobronchial (EBUS) and endoscopic (EUS) ultrasound-guided needle aspiration (CUS-NA) in restaging of the non-small-cell lung cancer (NSCLC) patients after neo-adjuvant therapy. Methods: In a consecutive group of NSCLC patients with pathologically confirmed N2 disease, who underwent neo-adjuvant chemotherapy, CUS-NA was performed. All negative patients underwent subsequently the transcervical extended bilateral mediastinal lymphadenectomy (TEMLA) as a confirmatory test. Results: 73 patients underwent restaging CUS-NA from Jan. 2009 to Dec. 2011. There were 123 mediastinal lymph nodes biopsied (stations: 2R – 4, 4R – 24, 2L – 3, 4L – 27, 7 – 61, 8 – 4). CUS-NA revealed metastatic lymph node involvement in 21/73 patients (28.8%). In 52 (71.2%) patients with negative or uncertain CUS-NA, who underwent subsequent TEMLA metastatic nodes were found in 13 patients (17.8%) and there was “minimal N2” in 8 out of them. In 7 patients CUS-NA occurred to be false-negative in the right paratracheal stations 2R and 4R, only accessible for EBUS. A diagnostic sensitivity, specificity, accuracy, PPV and NPV of the restaging CUS-NA was 62% (95% CI – 60–90), 95% (95% CI – 85–97), 80%, 91% (95% CI – 80–100) and 74% (95% CI – 71–91), respectively. No complications of CUS-NA were observed. Conclusions: CUS-NA is a reasonable and safe technique for mediastinal restaging in NSCLC patients, and after our data, in patients with negative results of the combined endoscopic technique, a surgical restaging of the mediastinum might not be mandatory.