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Title: US guided true cut needle biopsy of the pleura

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Body: Aim: To examine the diagnostic value and the complication rate of the ultrasound guided true cut needle biopsy (US-TCNB) in patients with suspected pleural malignancies with /without presence of pleural effusion. Material and methods: In a prospective study (2006-2012) we observed 135 patients (83 males and 52 females) age $x = 56.1 \pm SD 12.5$, with pleural lesions (PL) over 5 mm ($x = 25 \text{ mm} \pm SD 26 \text{ mm}$). After US visualization of the lesions we performed under local anesthesia US-TCNB (12-18G). The biopsy specimens were examined with light microscopy. Immunohistological analysis was carried out when needed. The final diagnosis of benign or malignant disease was established with histologic results of surgical interventions (VATS, thoracotomy) or follow-up findings. Results: US-TCNB of accessible for US visualization pleural lesions provides a biopsy specimen for correct histologic diagnosis in 129 or 95.6 % of patients. Sensitivity (Se) of US-TCNB in malignant pleural diseases ($n = 85$) is 93 %, specificity (Sp) of 100%, PPV 100% and NPV 89%. By patients with benign pleural lesions ($n = 50$) Se of the method is 98%, Sp 93%, PPV 89% and NPV 99%. We did not have complications. Conclusion: US-TCNB is an effective and safe method for histological verification of accessible for US visualization pleural lesions.