Ultrasound-Guided Forceps for Pleural Biopsy

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Abstract:

PURPOSE: Ultrasound guided forceps for pleural biopsy is a technique that can cover the diagnostic yield gap between the needle biopsy of the pleura and thoracoscopy or thoracotomy. This technique enables operator to take biopsy from multiple pleural sites. Study objectives were: (1) To describe the ultrasound guided forceps for pleural biopsy as a technique not in common use in our practice to obtain pleural biopsy. (2) To evaluate the diagnostic yield of this technique in undiagnosed exudative pleural effusion. METHODS: This study included 96 patients admitted to Chest Department – Assiut University Hospital during the period from March 2011 to January 2012. All patients had exudative pleural effusion with first pleural tapping undiagnostic. Patients with bleeding tendency or blood coagulation defects were excluded from the study. Each one was submitted for the procedure once. The equipments used were ultrasound apparatus ( ALOKA – Prosound – SSD – 3500SV), biopsy forceps ( KARL - STORZ – Germany 10329L-BS), Trocar and canula of Cope’s needle and rubber inlet seal. The procedure was performed under local anesthesia (Xylocaine 2%) and aseptic condition. The patients were premedicated by analgesic (Ketorolac thromethamine 20mg). Three to five biopsy fragments were obtained from each case and sent in 10% formaldehyde to the pathology laboratory. All patients were submitted for thoracoscopy under local anesthesia and thoracoscopic forceps biopsies of pleura were taken. RESULTS: Compared to thoracoscopy the sensitivity of ultrasound guided forceps pleural biopsy in diagnosis of malignant and tuberculous lesions was 85% and 88% respectively. The technique was absolutely specific in diagnosis of malignant and tuberculous lesions. CONCLUSIONS: Ultrasound – guided forceps for pleural biopsy is a simple, efficient, and safe procedure. It can be carried out easily and safely even in sick and obese patients. On the other hand, the procedure appears similar to the thoracoscopy in obtaining adequate pleural tissue specimens. Yet, it is simpler and less traumatic. CLINICAL IMPLICATIONS: Ultrasound – guided forceps for pleural biopsy can overcome many of the limitations of the conventional needle biopsy procedures, provides multiple biopsy specimens of the parietal pleura that are inaccessible to the biopsy needle, and can be carried out easily and safely even in sick and obese patients. The diagnostic yield is nearly similar to thoracoscopy

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