

Egyptian experience of modified medical thoracoscopy

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Abstract

Background: Thoracoscopy can be performed by a pulmonologist under local/regional anesthesia (medical thoracoscopy) or by a thoracic surgeon under general anesthesia (video-assisted thoracic surgery). The differential diagnosis of pleural disease is often a lengthy process fraught with pitfalls. In pleural malignancies, the diagnostic yield of closed pleural biopsy (CPB) is only 50 to 60% overall, and 20% in malignant mesothelioma (MM). Contrary to thoracocentesis and percutaneous CPB, thoracoscopy permits biopsy with direct visualization. We used a modified technique which is more easy and cheaper in our patients.

Objective and Aim of the Study: The aim of this study to evaluate the use of modified medical thoracoscopy in undiagnosed pleural effusion.

Methods: An informed consent was taken from patients before the beginning of the study. For each patient, one should analyze the following: (1) detailed medical history, including smoking habits, exposure to asbestos, and the personal history of cancer; (2) chest radiographs and CTs, in order to assess pleural effusion when existing; and (3) the results of available closed pleural biopsies (CPBs). Also, bleeding and clotting profile should be done preoperative. Prior to the procedure, pleural effusion was fully drained in the endoscopy suite. Thoracoscopy was done under local/regional anesthesia with spontaneous breathing and mild sedation (midazolam) by an experienced pulmonologist in the thoracoscopic room. Patients were placed in lateral decubitus position, with the involved side upward. After skin sterilization and local generous 2% xylocaine anaesthesia, a 2-4 cm incision was done and blunt dissection was used to enter the pleural space between the third and sixth intercostal space, along the midaxillary line. The site of introduction is usually determined using ultrasonography of the most dependent area of the effusion. A 40F silicone tube 10 cm long was inserted into the incision. A sterilized fiberoptic bronchoscope signed for thoracoscopy only was inserted, and the pleural cavity was inspected through 40F silicone tube. The parietal, visceral, and diaphragmatic pleura were successively inspected, together with the mediastinal vessels and lymph nodes. Biopsies were performed under direct visual control in all suspect areas, systematically in several parts of the parietal pleura, and sometimes in the visceral pleura and will be sent for pathological examination. An intercostal tube was inserted before wound closure to evacuate air and fluid. Chest radiographs were routinely, immediately after the procedure and daily thereafter until chest tube removal. When indicated, pleurodesis was performed secondarily by brushing, tetracycline installation (or Bovodine) in the pleural space.

Results: Twenty two patients were admitted to chest department with first pleural tapping undiagnostic. The age range from 28 to 70 years old, with mean of 50.8 ± 10.5 years. Fourteen patients (63.6%) were males, and 8 patients (36.4%) were females. Smokers were 13 (59.1%), and 9 (40.9%) were non-smokers. The effusion was right sided in 12 (54.5%) and left sided in 10 (45.5%). The pathology was diagnostic in 18 (81.8%) and non-specific in 4 (18.1%). We found malignant mesothelioma (18.2%), non-specific inflammation (18.2%), tuberculosis (13.6%), adenocarcinoma (13.6%), metastasis from primary breast cancer (13.6%), poorly differentiated carcinoma (9.1%), anaplastic carcinoma (4.5%), non-Hodgkin lymphoma (4.5%), and small cell carcinoma (4.5%).

Conclusion: Modified medical thoracoscopy is an easy cheap technique with no complications. We recommend this technique where resources and surgical thoracoscopy is not available or expensive.