

Three step needle withdraw method: a modified technique for reducing the rate of pneumothorax after CT-guided lung biopsy

李志明;梁庭繼

Wang HJ;Leung TK;Lee CM;Chen YY

摘要

Abstract

BACKGROUND: Computed tomography (CT)-guided transthoracic needle biopsy is reliable and has become popular for diagnosing pulmonary lesions. Pneumothorax is the most common complication of transthoracic needle biopsy. The aim of this study was to report our preliminary experience with a three-step needle withdrawal technique for CT-guided lung-biopsy, with emphasis on reduction of the pneumothorax rate. **METHODS:** A total of 146 patients (85 men and 61 women; mean age, 66.1 years; age range 19-91 years) with a pulmonary lesion underwent single slice CT-guided lung biopsy. We used a 17-gauge coaxial needle for guidance and a 18- gauge cutting needle to perform the biopsy. We used a three-step method to withdraw the needle. Images were reviewed to assess the patients' posture and the size, location, and depth of the tumor. Any pneumothorax or chest tube usage was noted. **RESULTS:** Pneumothorax occurred in 23 (15.8%) patients, two of whom underwent chest-tube insertion. All 23 patients with a lesion deeper than 4 cm deep had a pneumothorax. In all patients with pneumothorax, lesions were smaller than 2 cm. **CONCLUSIONS:** Our modified CT-guided lung biopsy method with a three-step needle withdrawal technique appears effective with a relatively low pneumothorax rate. Predictors of pneumothorax in our study were a lesion deeper than 4 cm and a lesion smaller than 2 cm.