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Title: CT-guided biopsy of lung lesions: Experience of an oncology center in Brazil

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Body: Introduction: Computed tomography (CT) guided lung biopsy is widely accepted as an effective and safe diagnostic procedure for accessing thoracic lesions. Aims: To present the experience of an oncology center in Brazil in the use of CT-guided lung biopsy and describe its effectiveness and complications. Materials and methods: A retrospective analysis of medical records from outpatients attending routine consultations at Pulmonary Division of São Paulo State Cancer Institute (São Paulo, Brazil), who underwent transthoracic biopsy between December 2010 and November 2011 was conducted. Descriptive analysis of patients' characteristics, lesions' aspects, procedure techniques, diagnostic yield and complications was performed. Subgroup analysis was carried out to access differences between complicated and non-complicated procedures. Predictors of complications identified in univariate analysis were submitted to logistic regression to explore their significance as independent risk factors. Results: 71 subjects were submitted to CT-guided lung biopsy. Results were diagnostic in 60 cases (84.5%). Lesions were malignant in 55 (91.6%) and benign in 4 cases. Overall complication rate was 22% and included 14 pneumothorax (19.7%) and 2 hemothorax (2.8%). Chest drainage was necessary in 4 cases (5.6%). A statistically significant correlation was found between lesion diameter and complication. Smaller lesions were associated with higher rates of complications (OR 9.82, for first quartile vs others). Conclusions: CT-guided lung biopsy resulted in a high diagnostic yield with an acceptable rate of non-severe complications, being pneumothorax the most frequent. Small lesions were more prone to complicate.