

Percutaneous CT-Guided Biopsy (PCTGB) of Small (< 2cm) Subsolid Lesions is challenging; but safe and accurate

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BACKGROUND: Small subsolid pulmonary lesions (< 2cm) are a common incidental finding on CT. With the inexorable rise in the use of CT worldwide the frequency of nodule detection is likely to increase over the coming years. It will augment further when Lung CT screening becomes standard of care among practitioners. There are several safe follow-up protocols available; but sometimes patients or physicians do not accept to observe a potential malignant lesion for years, even when the aggressiveness is potentially low. **HYPOTHESIS:** Small subsolid lesions are usually challenging for preoperative biopsy as well as for pathologic analysis. Percutaneous CT-guided biopsy (PCTGB) offers a minimally invasive diagnostic method associated with low rate of complications. In this study we evaluate the diagnostic performance and safety of the use of CT-Guided Biopsy in small subsolid lesions at our institution. **METHODS:** This is a retrospective review of cases where PCTGB was used. Thirty small subsolid pulmonary lesions were submitted to PCTGB from March 2013 to August 2015. Procedure was generally performed under general anesthesia with single lumen ventilation, with induced apnea. A coaxial percutaneous biopsy technique with 20G-trucut and 19G-coaxial needles were utilized. All complications were recorded. **RESULTS:** Thirty patients (21 females, 9 males), mean age 57 years (range: 20-77), underwent PCTGB for small subsolid lesions. Mean nodules size was 11mm (range: 0.7-2.0cm). Upper lobe was the most frequent location of the nodules (66.7%) followed by middle lobe (26.6%). The overall accuracy of the biopsy was 83.3% and pleural drainage post-biopsy rate was 10% (3/30). No other moderate or severe complications or death were observed related to the procedure. **CONCLUSIONS:** Percutaneous CT-guided biopsy is a useful and safe diagnostic procedure for evaluating small subsolid lesions under 2cm when serial CT images are not available or no desirable. In this circumstance PCTGB would be a guidance to make further clinical decision on patient management.