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Title: Conventional vs ultrathin bronchoscopy in the diagnosis of solitary pulmonary nodules (SPN)

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Body: **PURPOSE:** Ultrathin bronchoscopes can be guided under fluoroscopy to reach solitary pulmonary nodules. The aim of this study is to compare this diagnostic yield against conventional bronchoscope. **MATERIAL AND METHOD:** two centers have prospectively collected patients referred to study solitary pulmonary nodules by bronchoscopy under fluoroscopy guidance. One centre performed the procedures with a conventional bronchoscope (Olympus BF Q-180, outer diameter 5.5 mm) and the other an ultrathin (Olympus XP 160, outer diameter 2.8). In both groups bronchial washings were routinely collected. In the conventional group, brushing was always performed. In the ultrathin bronchoscope group, biopsies were only performed when an endoluminal lesion was seen; if not, then bronchial brushing was performed. **RESULTS:** Groups were similar in the main variables, except for the number of brushes performed, conventional group (total 31 vs. 66; $p < 0.05$). Conventional ($n=27$): age 67.6; diameter 20.1 (SD 5.9); SUVm ($n=20$) 9.1; localization 0% (inner), 50% (middle), 50% (outer); bronchus sign (45%); visualized by fluoro (88.9%); biopsy performed (40.9%); brushes (2 in 55%, 3 in 44.4%). Ultrathin ($n=39$): age 66.9; diameter 21.5 (SD 6.0); SUVm ($n=32$) 7.7; localization 11.1 (inner), 55.6% (middle), 33.3% (outer); bronchus sign (68.4%); visualized by fluoro (69.2%); biopsy performed (59.1%); brushes (non2 20%, 1 in 69.2%, 2 in 7.5%%, 3 in 2.6%). The final diagnosis were achieved in 44.4% in the conventional group vs. 38.5% in the ultrathin group ($p=0.6$) **CONCLUSIONS:** the ultrathin bronchoscope is equally effective as the conventional bronchoscopy under fluoroscopy guidance in the diagnosis of SPN.