J Bras Pneumol. 2017;43(1):76-77
http://dx.doi.org/10.1590/S1806-37562016000000379

Radial-probe EBUS for the diagnosis of peripheral pulmonary lesions

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We would like to make some comments regarding the article by Jacomelli et al.,[1] which describes an initial experience using radial-probe endobronchial ultrasound (EBUS) for the investigation of 51 pulmonary lesions.

First, we have found data inconsistencies in Tables 1 and 2 in the aforementioned article. The authors reported, both in the body of the text and in Table 1, that the diagnostic sensitivity of radial-probe EBUS for radial-probe EBUS-visible nodules was 74.1%: 20 surgically confirmed diagnoses among 27 radial-probe EBUS-visible nodules. However, in the second column of Table 2, we found that 21 diagnosed cases of radial-probe EBUS-visible nodules (10 cases of malignant disease and 11 cases of nonmalignant disease) were listed, which differs from the sum of 20 cases recorded in the last row of the same column. Also in Table 2, one case of hamartoma was erroneously included among the malignant nodules.

The study reports, in its results, the value of 66.7% (34 diagnoses in 51 cases) as the overall sensitivity (diagnostic yield) of radial-probe EBUS for malignant and benign diseases. However, we do not understand why, for the calculation of this sensitivity, 3 radial-probe EBUS-invisible lesions were included with the 31 radial-probe EBUS-visible lesions that were diagnosed by this method.

In addition, the prevalence of neoplasia, a relevant factor for the analysis of the diagnostic yield,[2] was not informed; nor was the final diagnosis of the 12 radial-probe EBUS-invisible pulmonary lesions. Therefore, the presentation of results by Jacomelli et al.[1] differs in some aspects from that of important publications on the subject.[2,3]

In the Department of Interventional Pulmonology of the *Instituto Europeo di Oncologia* in Milan, Italy, we have used radial-probe EBUS to investigate pulmonary nodules and masses since 2012. We use a miniprobe within a guide sheath (K-203 Guide Sheath Kit; Olympus Medical Systems Corp., Tokyo, Japan) and fluoroscopy for localization and subsequent transbronchial biopsy of the lesions. In all procedures, a pathologist is present in the endoscopy room for rapid on-site cytological evaluation, as previously described.[4] We believe that this is essential for increasing the diagnostic yield of the procedure, as we will describe below.

In 2015, we investigated 161 pulmonary lesions (nodules and masses) using radial-probe EBUS. Three patients who were lost to follow-up were excluded from the statistical analysis. The examination was not diagnostic (its results were nonspecific and unrelated to the final diagnosis, or the bronchial epithelium or lesions were not visible by radial-probe EBUS) in 33 cases (23 cases of malignant disease and 10 cases of benign disease). Among those cases, there were 11 radial-probe EBUS-invisible lesions, which exclusively comprised opacities less than 40 mm. The overall sensitivity of the radial-probe EBUS-guided biopsies was 79% (108 malignant and 17 benign biopsies). The prevalence of malignant disease was 83%. The sensitivity, specificity, negative predictive value, and accuracy for malignancy among the lesions detected by radial-probe EBUS were, respectively, 88%, 100%, 57%, and 89.5%.

Finally, we must emphasize the importance of the article by Jacomelli et al.,[1] because, in addition to being the first one on radial-probe EBUS in Brazil, it is an example of use of the growing arsenal of endoscopic tools for the investigation and treatment of pulmonary lesions.

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Financial support: Maurício Guidi Saueressig was the recipient of a grant from the *Coordenação de Aperfeiçoamento de Pessoal de Nível Superior* (CAPES, Office for the Advancement of Higher Education).

ISSN 1806-3713