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Image-Guided Pleural Biopsy: Issue of the Expertise and Availability of the Resources

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We read with great interest the study by Metintas et al. [1], entitled 'CT scan-guided Abrams' needle pleural biopsy versus ultrasound-assisted cutting needle pleural biopsy for diagnosis in patients with pleural effusion: a randomized, controlled trial'. The authors meticulously compared both guided procedures for pleural biopsy and found that CT scan-guided Abrams' needle pleural biopsy (CT-ANPB) was significantly more sensitive compared to ultrasound-assisted cutting needle pleural biopsy (US-CNPB). The authors also found that the sensitivity of CT-ANPB was increased to 93.7% if the pleura was thickened >1 cm.

The authors compared image-guided biopsy using two different techniques to using two different biopsy needles. Several studies carried out in the past have shown comparable results with both techniques, and most of the studies used cutting needle for pleural biopsy.

Koegelenberg et al. [2] compared the diagnostic yield of ultrasound-assisted Abrams and cutting needle biopsies for pleural tuberculosis and found that pleural biopsies performed with Abrams needle have a higher diagnostic sensitivity compared to cutting needle biopsy (sensitivity 81.8 vs. 65.2%, $p = 0.022$). Other studies have been reported on the use of cutting needle for image-guided pleural biopsy and observed comparable results with both procedures. Stigt et al. [3] performed US-guided cutting needle biopsy in 14 of 20 patients with a diagnostic accuracy of 80%. A retrospective study of US-guided cutting needle biopsies performed by respiratory physicians also showed a high diagnostic yield (94%) [4]. Metintas et al. [5] performed CT-guided CNPB in 30 patients and

reported a success rate of 83.3%. Therefore, it would be more prudent if the authors could have used both biopsy needles for a similar procedure to compare the results.

The authors have precisely evaluated US- and CT-guided biopsy as there were no randomized trials for direct comparison of sensitivity of both techniques. The image-guided techniques are more accurate, can be performed on outpatient basis and in patients unfit for medical thoracoscopy; they require expertise, equipment, and the cost of the procedure should be kept in mind, particularly in resource-constraint settings. US-guided pleural biopsy has several merits over CT-guided biopsy. Firstly, it allows real-time visualization of the pleural abnormality as well as positioning of the needle. Secondly, there is no radiation exposure to the patients. CT-guided biopsy has the only advantage of performing biopsy from the inaccessible site, i.e. behind the ribs. Thus, the choice of a particular procedure should not solely dependent on comparison of diagnostic yields but on physician's expertise, patient's general condition, and availability of resources.

Financial Disclosure and Conflicts of Interest

The authors have no conflicts of interest to disclose.

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