ing an adequate surgical margin based on accurate identification of the nodule’s location.

Wedge resection has been reported to be the optimal treatment for GGO lesions in a prospective study involving 50 patients [11]. In our retrospective study, there have been no cases of recurrence so far among the 15 BAC patients who underwent percutaneous marking under CT guidance, followed by VATS wedge resection. Therefore, this less invasive strategy is a promising means of treatment for BACs.

Most surgeries were performed during VATS, although thoracotomy was selected in four cases that involved severe adhesion in the thoracic cavity, including one case with a positive surgical margin. This suggests that we need to carefully consider the optimal approach for localizing and treating small nodules detected in patients with a previous history of thoracotomy. We also had one case of local recurrence on the stapled line during the lengthy follow-up period, and therefore we now check the distance and direction from the marker to the nodule on a CT-scan taken after percutaneous marking.

References


eComment: About the localization techniques of solitary pulmonary nodules

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We read with interest the manuscript of Yoshida et al. [1] about the outcome of computed tomography (CT)-guided percutaneous marking for preoperative localization of small peripheral pulmonary nodules. Use of a percutaneous hook-marker in the localization of solitary pulmonary nodules (SPNs) was widely used. Nevertheless, the marker can dislocate [2]. In our institution, we are able to perform radio-guided surgery (RGS) [3]. We localize SPNs by injection of a solution of human albumin serum labeled with 99m-Tc and non-ionic contrast medium with a CT-scan guide. RGS can mark SPN located in any region of the lung and the nodule location can be continuously reassessed during the operation using a gamma radio probe to confirm an accurate excisional biopsy. RGS can be successfully used for very small nodules (5 mm) and larger nodules deep in the parenchyma that would be difficult to VATS excise. It is also useful for lesions with ground-glass appearance, which can be difficult to palpate even in open procedures. The localization technique does not interfere with immediate pathological study, permitting frozen analysis of the specimen and assessment of the margins. An advantage of RGS is the control of suture seams at the end of procedure to check for possible residual hyper-absorption, indicating the immediate need to perform the resection. Minimal morbidity and mortality are associated with the procedure.

In conclusion, RGS is a safe and simple technique for localizing SPNs difficult to identify during routine surgery, with fewer complications and failures than other techniques. This technology also supports the current practice of video-assisted thoracoscopic lung resection.

References

