INNER MARGIN RATIO FOR THE PREDICTION OF OCCULT NODAL METASTASES

To the Editor:

Classifying lung cancers into central or peripheral is currently used for the selection of patients who are candidates for stereotactic body radiotherapy and for the indication of invasive mediastinal staging in patients with normal mediastinum on computed tomography/positron emission tomography. Although for the first purpose there is a standardized definition, for the latter there is lack of consensus. In the article by Kawamoto and colleagues, the authors, using a method previously described by our group (inner margin ratio [IMR]), have found that clinical stage I lung cancers centrally located (with an IMR cutoff ≤0.5) have a higher risk of occult mediastinal nodal metastases. However, there are 2 findings in the study that deserve a comment. First, whereas in our study an IMR cutoff of 0.5 predicted occult N1 metastases but not N2, in the study by Kawamoto and colleagues, the results are inverse. The authors suggest that these differences exist because they only included tumors located in the lower lobes, which are more likely to present skip metastases. However, it is remarkable that the rate of metastases in nodal stations 8 (paraesophageal) and 9 (pulmonary ligament) in their series is very high: 58.8% of patients with N2 disease presented involvement of these nodal stations, and in 35% of patients these were the only involved stations. This rate of involvement in stations 8 and 9 is higher than that previously described by our group (the inner margin ratio [IMR]).5 have found that clinical stage I lung cancers centrally located (with an IMR cutoff ≤0.5) have a higher risk of occult mediastinal nodal metastases. However, there are 2 findings in the study that deserve a comment. First, whereas in our study an IMR cutoff of 0.5 predicted occult N1 metastases but not N2, in the study by Kawamoto and colleagues, the results are inverse. The authors suggest that these differences exist because they only included tumors located in the lower lobes, which are more likely to present skip metastases. However, it is remarkable that the rate of metastases in nodal stations 8 (paraesophageal) and 9 (pulmonary ligament) in their series is very high: 58.8% of patients with N2 disease presented involvement of these nodal stations, and in 35% of patients these were the only involved stations. This rate of involvement in stations 8 and 9 is higher than that previously reported. Second, in their series, a cutoff of IMR at 0.5 has attained a high sensitivity for predicting occult N2 disease (82.3% [14 out of 17]), but a cutoff of 0.67 (the definition of centrality proposed by the European Society of Thoracic Surgeons [ie, inner two-thirds]) has increased the sensitivity up to 100%. Thus, in the series by Kawamoto and colleagues, using IMR with a cutoff of 0.67 attains an optimal sensitivity in the prediction of occult nodal metastases, better than that previously described by our group.

Finally, we are glad that the authors have used IMR for their study and we thank them for encouraging other authors to use IMR to help find a standardized definition of tumor centrality, based on geometrical analysis, for staging purposes. Nevertheless, we think that the thoroughness of the invasive staging procedures and of the intraoperative nodal evaluation should not be influenced by tumor position because, in general, the more thorough the exploration the more precise the staging. This is especially relevant in cancers of the left lower lobe that are known to spread to the contralateral mediastinum. If there is no preoperative invasive mediastinal staging, the right paratracheal nodal stations will remain unexplored and their involvement unnoticed.

References