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Reply to the Editor:

We appreciate the comments and concerns expressed by Dr Sawabata regarding our article, titled "Oncologic outcomes of segmentectomy compared with lobectomy for clinical stage IA lung adenocarcinoma: Propensity score-matched analysis in a multicenter study."¹ We believe any recurrence in the residual pulmonary segments after segmentectomy must be avoided as much as possible, as Sawabata stated. Actually, we experienced 2 recurrences in the residual segments after segmentectomy in this study.¹ One patient had 2 cm of pure solid tumor on high-resolution computed tomography (HRCT). He underwent resection of left S4+5 segments and local recurrence in the surgical stump occurred 6 months after the operation. The other patient had 2 cm of mixed ground-glass opacity (GGO) tumor including the majority of the solid part on HRCT. He underwent resection of the right S2 segment and local recurrence developed 24

months after the operation. Fortunately, these patients were treated with completion lobectomy and are alive well without disease 31 months and 72 months after the operations, respectively.

In our study, the independent prognostic factors for local recurrence-free survival were solid tumor size on HRCT and maximum standardized uptake value (SUVmax) on F-18-fluorodeoxyglucose positron emission tomography/computed tomography (FDG-PET/CT).¹ Therefore, segmentectomy for a tumor that has a large solid tumor size or a high SUVmax should be carefully indicated. When segmentectomy is performed in such a risky case, taking wide surgical margins and intraoperative lymph node assessment using frozen sections are mandatory. On the other hand, we previously proposed the N0 criteria of solid tumor size <0.8 cm or SUVmax <1.5 for clinical stage IA lung adenocarcinoma.² Patients meeting the N0 criteria can be good candidates for sublobar resection with sufficient surgical margin including wedge resection because of little chance to have pathologic nodal metastasis, for which we concentrate our attention on the surgical margin. We also demonstrated that solid tumor size on HRCT and SUVmax on FDG-PET/CT are independent predictors of pathologic invasiveness, lymph node metastasis, and prognostic factors for clinical stage IA lung adenocarcinoma.^{2,3} Optimal surgical procedure for clinical stage IA lung adenocarcinoma can be chosen using solid tumor size on HRCT and SUVmax on FDG-PET/CT. Moreover, we reported solid tumors without GGO generally showed worse pathologic behaviors than mixed tumors with GGO in clinical stage IA lung adenocarcinoma.⁴ However, a solid tumor with low SUVmax can be a good candidate for segmentectomy because such a tumor has low malignant potential and shows good prognosis.^{2,4}

We failed to carry out a subset analysis comparing segmentectomy with lobectomy in patients with solid tumor on HRCT since in only 13 patients we had performed segmentectomy for solid tumors. In general, thoracic surgeons have tended to choose segmentectomy for a mixed tumor with GGO in T1 N0 M0 lung adenocarcinoma. To answer the question "Is segmentectomy suitable for solid type lung cancer?" we have to await the result of large phase III trials, CALGB-140503 in the United States and JCOG0802/WJOG4607L in Japan.⁵ We encourage any participants to enroll patients in these studies.

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