

## Peer review file

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### Reviewer A

Major:

Comment 1: The number of patients treated with wedge resection is quite a few in comparison to those with anatomical lobectomy in both stage IA1 and IA2. This is the most important limitation which should be more clearly mentioned in the Discussion part.

Reply 1: Thank you for your comments. You are right. A small sample size is the major limitation of this study. Therefore, we can't generalize our data. However, in this study, patients with stage IA1 and IA2 with a total tumor size of greater than or equal to 2 cm were targeted; as a result, there were few patient cases where wedge resection was performed with a total tumor size of greater than or equal to 2 cm. Therefore, this study is the first study to evaluate the prognosis of wedge resection in tumors of greater than or equal to 2 cm after the staging system changed. Although the results of this study cannot be generalized, it is expected that the results will be used as evidence for large-scale or prospective studies that can be conducted in the future.

Changes in the text: I added a paragraph in the Discussion section. (Page 11, Lines 4-14)

Comment 2: The stage mentioned in the manuscript seems pathological stage, according to the description in Patients and Methods. Though it is impossible to know beforehand the pathological stage, it could be helpful for the readers if there exist some clues for the pathological stage before surgery. However, it is even difficult to decide whether the patient's stage is clinical IA1 or IA2, since it is difficult to accurately calculate the size of ground glass part and solid part on HRCT. Therefore, the author should mention on this topic elucidating the concordance between the clinical and pathological stage observed in the current study in the Result and Discussion part.

Reply 2: You have a good point and are correct. Before surgery, the clinical stage determines the treatment options. Therefore, research using the clinical stage is useful for practical use. However, before conducting a study using the clinical stage, studies using the pathological stage must first be performed. The reason is that the pathological stage is more accurate than the clinical stage, and the clinical stage often varies depending on the radiologists. Hence, in the case of research using stage, I think that a study using pathological stage should always precede a study using clinical stage.

Changes in the text: I added some explanatory sentences in the Discussion section (Page 12, Lines 16-23)

Comment 3: The result suggests that the area of consolidation, which reflects invasive component, could be a strong prognostic factor in the wedge resection. However, it is difficult to accurately diagnose the invasive component in pathology as well as radiology. Since the diagnosis of pathological invasion is difficult and differs among pathologists, the authors should mention on this topic in the Discussion

part.

Reply 3: As mentioned previously, the pathological stage is generally considered to be the accurate stage. It is true that the pathological stage is much more accurate than the clinical stage, however, measuring the size of the invasive component differs slightly depending on the pathologist.

Comment 4: The locoregional as well as distant metastases are more frequent in the lobectomy group than wedge resection (Table 5). I assume that there has been bias in the selection of surgical strategy where more advanced cases were allocated to lobectomy and easier cases to wedge resection. I think it is understandable to have this kind of bias considering the retrospective study. The authors should state the bias, if relevant, in the Result or Discussion part.

Reply 4: Table 5 showed the comparison of distribution of recurrent sites in stage IA2 lung adenocarcinoma. The wedge resection group had recurrence in 3 out of 16 patients, and the lobectomy group had recurrence in 6 out of 110 patients. Therefore, there was more recurrence in the lobectomy group.

Changes in the text: I added total number of patients in table 5 (Page 21, Line 3)

Comment 5: The authors stated in the second last paragraph of the Discussion part that the relatively shorter follow-up period would not affect the result because the recurrence of NSCLC usually occurs within 2 years. However, the references No. 28 and No. 29 are dealing with NSCLC including the solid type where the recurrence pattern is different from the lepidic predominant subtype. The authors should reword these parts.

Reply 5: You are correct. I have revised the manuscript.

Changes in the text: I have revised those sentences in the Discussion section (page 12, Lines 24-25, Page 13, Lines 1-2)

Minor:

Comment 6: There are some grammatical errors, for example, the first sentence (lines 54-55) is incorrect. The whole manuscript should be reviewed by the native scientist.

Reply 6: I have revised the first sentence. This manuscript was edited by a native English-speaking professional (BioMed Proofreading, LLC).

Changes in the text: I have revised the sentence (Page 4, Lines 2-3), and I added a sentence (Page 13, Lines 14-15)

Comment 7: The footnotes of Table 5 are duplicate.

Reply 7: I'm sorry. That was my mistake.

Change in the text: I have deleted the duplicated footnotes. (Page 21, Lines 4-6)

### **Reviewer B**

It is necessary to write the definition of the words " wide wedge resection" concretely.

Authors must explain the difference between "wide wedge resection" and wedge resection which has been usually performed.

Reply: I added the definition of wide wedge resection in the Patients and Methods section.

Change in the text: I added a sentence in the manuscript. (Page 6, Lines 15-16)

### **Reviewer C**

This is a comprehensive study with the result which I predicted when I see the title. Congratulation about your effect to let us know that only stage IA1 could be resected by wedge resection with sufficient resection margin which the margin length was greater than the total tumor size. For the stage IA2, anatomic resection is still needed.

Reply: Thank you for your comments.