

Peer Review File

Article information: <http://dx.doi.org/10.21037/tcr-20-1995>

Reviewer A

Dear Choi,

I cannot ignore the selection bias between the limited surgery group and standard surgery group. So you should perform the propensity score matching analysis due to minimize it, I think. And, I want to emphasize the guidelines say that adjuvant chemotherapy should be recommended for patients with pathological stage IB. So we carefully discuss limited surgery for such patients.

Specific comments

This is a retrospective study at a single center about outcome after surgery for small sized NSCLC. You are interested in visceral pleural invasion because it determines pathological stage from pT1a/pT1b to pT2a based on WHO classification version 8. By the new classifier, we have to make subgroups according to tumor size more finely than version 7. If visceral pleural invasion is discovered, pathological stage is upgraded from IA to IB, which means that physicians consider adjuvant chemotherapy based on most guidelines. In clinical, the factor is very important, so I understand the concept of this study. However, selection bias is not ignored without change, and so I recommend major revision, below.

1. Propensity score analysis should be performed decrease selection bias, when comparing sublobar resection group with the lobectomy group.

Reply: Thanks for your good comments. I also believe that propensity score matching can reduce selection bias. However, it is difficult to perform propensity score matching because the data of this study is organized by SPSS statistics program. In this study, consecutive patients were selected to reduce selection bias. If there are no differences in clinicopathological variables between the groups using consecutive patients, it can be regarded as well-matched data. Furthermore, the clinicopathological characteristics were not statistically different between sublobar resection group and lobectomy group in the same size tumors (Table 5). So I think this study is also a statistically meaningful study.

2. Author should consider the difference between two groups in table 6, with attention and in

more detail.

Reply: Table 6 showed the difference of recurrence sites between sublobar resection group and lobectomy group and it was not statistically different ($p=0.824$). I added total number of groups in the table.

Changes in the text: I revised the 1st line of table. (Page 21, Table 6)

1: I cannot ignore the selection bias of surgical procedure. Generally, it must be strange that outcome after limited surgery shows relatively superiority than that after standard procedure. In table 1, we can see the statistically significant difference in SUV max between two groups. Probably, the biological malignancy could be higher in the lobectomy group. Furthermore, total tumor size and invasive component size in the lobectomy group are apparently larger than that in the sublobar group. In table 5, total tumor size was higher statistically in the lobectomy group.

Reply: In this study, Comparison of sublobar resection and lobectomy in all study patients was for reference only. A more meaningful comparison was shown in Tables 5, 6 and Figure 2 comparing sublobar resection and lobectomy in small-sized stage IB NSCLC. This is described in detail in the Discussion section (page 8, line 22-27, page 9 line 1-7).

I think additional analysis should be performed in order to make a proof that the prognosis of sublobar resection in patients with small-sized (≤ 2 cm) stage IB NSCLC was comparable with lobectomy. I recommend propensity score matching that enable authors to minimize the selection bias in this study.

Reply: I think the selection bias was minimized because consecutive data were used in this study. This is described in detail in the Discussion section (page 8, line 26-27. Page 9 line 1-4)

2: In table 6, the lobectomy group demonstrated 4 cases with distant recurrence, but the sublobar group showed zero. The findings should be considered with attention and in detail. I think that selection bias affected the differences. I cannot understand the reason why there were much more cases had locoregional recurrence, distant recurrence, and both recurrence in lobectomy group.

Reply: In table 6, the recurrence sites of two groups were not statistically different. And, the recurrence rate was not higher in the lobectomy group.

Reviewer B

The article is interesting and well written with adequate references.

My comments:

- The patients section is confusing. From what is written here it is not clear if you exclude tumors ≤ 2 cm from the whole group or only from the sublobar group. In line 95 you wrote "Patients with tumors larger than 2 cm of invasive component size were also excluded" implying that the whole group is meant. Then in line 98 "The sublobar resection group included only tumors ≤ 2 cm of invasive component size". You should clarify that you conducted both a comparison of all patients (including tumors > 2 cm) and separately a comparison of small sized tumors (≤ 2 cm).

Reply: I'm sorry. It was my mistake. The sentence "Patients with tumors larger than 2 cm of invasive component size were also excluded" should have changed to "Patients with tumors larger than 2 cm of invasive component size who underwent sublobar resection were also excluded".

Changes in the text: I have revised the sentence (see page 5, line 14-15)

- In Table 1 the operative mortality is 2 of 21. This is 9,5% and not 1%. Given that the mortality is relatively high you should describe the cause of death for these two patients.

Reply: In Table 1, the mortality of sublobar resection group and lobectomy group is 0 and 2, respectively. It was reversed. There was an error in the input. I checked the other values in the table again, but there was no problems in the other values. Sorry again.

Changes in the text: I have revised the Table 1 (see page 15, Table 1)

- A limitation that you do not mention is that the group of sublobar resection is relatively small (21 of 227). You should discuss this issue and its possible impact on the significance of statistical analysis

Reply: You are right. I mentioned that the sample size too small to generalize our results in the discussion section. However, the results of this study are never meaningless, and I think there is a good possibility that the present study can be used as a basic data for future studies. This is described in detail in the Discussion section (see page 10, Line 23-27, page 11, line 1-3)

- Two thirds of the sublobar resection are wedge resections. Wedge resections are considered to be inferior to segmentectomies from the oncological point of view. If possible you should describe the reasons for resecting wedges instead of segments in these cases. You also should address this issue in the discussion section of your article.

Reply: You are right. I have added some comments in the discussion section.

Changes in the text: I have added a paragraph in the manuscript (see page 10, line 23-27, page 11, line 1-3)