

Peer review file

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Reviewer A

Comment 1: The main limitation is the number of patients per group which is very low to have clear conclusion.

Reply 1: We thank the reviewer for pointing the main limitation. Due to small numbers of our study, death from other diseases might cause a selection bias. According to your grateful advice, we newly analyzed disease-free survival (DFS) to eliminate the bias. We consider further multicenter large study should be conducted after this study is completed.

Changes in the text: We added Figure 3 and the text to the Methods section (Page 7, Line 131-133.) and Results section (Page 9, Line 169-174.).

Reviewer B

Comment 1: Authors should mention or discuss that the misdiagnosis of frozen section, such as benign tumor and metastatic lung tumor etc... could be improved by preoperative tissue diagnosis.

Reply 1: We grateful thank for your excellent suggestion. All of the 40 cases were not obtained preoperative diagnosis of NSCLC. Misdiagnosis could lead to require completion lobectomy after initial wedge resection, which might cause a selection bias therefore we have added text to the Discussion (limitations).

Changes in the text: We added the text to the Discussion section (Page 12, Line 243-248).

Comment 2: A compromised sublobar resection (intended wedge resection, no more completion lobectomy considered) should be defined and excluded to compare.

Reply 2: We wish to thank the reviewer for this comment and apologize for mistake about exclusion criteria of “non-invasive adenocarcinoma” (Page 5, Line 88). This mistake made it difficult to understand our study. Our study excluded the patients with non-invasive adenocarcinoma who underwent curative intent wedge resection because these patients may not require lobectomy in the future.

Changes in the text: Please see Page 5, Line 86-88.

Comment 3: Patient characteristics: Did all patient had preoperative PET scan? What were their clinical stage for NSCLC? What were the lymph node dissection number in each group since you had discussed this issue at your discussion section.

Reply 3: Thank you for pointing out the preoperative and postoperative diagnosis in our study. We

mentioned all of the patients underwent PET scan before the operation in the Methods (Page 6, Line 104-105.) but we have also added the clinical stage and lymph node dissection number in Table 1 to avoid any potential confusions.

Changes in the text: Please see a new Table 1.

Comment 4: The authors should clarify the timing of the complete lobectomy to be performed (immediately at the Operative room or by another operation).

Reply 4: We wish to thank the reviewer for this important comment. All of the patients underwent completion lobectomy for another operation. We added to the start of Results section.

Changes in the text: The Median length between complete lobectomy and initial wedge resection was 3.0 months (Page 8, Line 151-152.).

Reviewer C

Comment 1: How was the decision made to perform completion lobes on some, while not on others? Were any objective criteria used? I'm only enquiring about those patients who medially could tolerate a lobectomy.

Reply 1: We grateful thank for your excellent suggestion. We corrected and added to the Methods section.

Changes in the text: We recommend completion lobectomy to the patients underwent initial wedge resection and diagnosed unexpected invasive NSCLC in principle. However, the final decision to perform complete resection was made by case-by-case basis according to other malignant disease or patient's wishes (Page 5, Line 89-93.).

Comment 2: Were adenocarcinoma histologic subtypes identified? What were the proportions of high risk adenoca subtypes in each arm. More specifically, I'm referring to solid and micropapillary subtypes.

Reply 2: Thank you very much for your insightful suggestion and we apologize for lack of these subtypes. There were no cases with solid or micropapillary subtypes in all of 26 adenocarcinoma patients. To avoid any potential confusions, we have also added these sentences in Results section.

Changes in the text: We added and corrected end of the Results section (Page 8, Line 164-165.).

Comment 3: The LOS seems awfully long for both groups. 5 days for a wedge and 10 days for a lobectomy. Were these primarily open procedures? What % was VATS?

Reply 3: Thank you very much for your advice. All of the wedge resection was performed by VATS. On the other hand, 15 of 17 (88.2%) patients in completion lobectomy group were by VATS.

Changes in the text: We added the text to the Result section (Page 8, Line 149-151.).

Comment 4: I would exclude the typical carcinoid and salivary carcinoma from analysis. That's

not really in the spirit of the controversy being addressed here.

Reply 4: We grateful thank for your excellent suggestion. First of all, we should apologize for our mistake about exclusion criteria of “non-invasive adenocarcinoma” (Page 5, Line 88). This mistake made it difficult to understand our study. Our study excluded the patients with non-invasive adenocarcinoma who underwent curative intent wedge resection because these patients may not require lobectomy in the future. We corrected our exclusion criteria. Therefore, our study mainly included invasive NSCLC such as carcinoid, neuroendocrine carcinoma and other types of lung cancer. For these reasons, we would like to retain the original inclusion criteria. We believe that this new information adequately addresses the reviewer’s comment.

Changes in the text: We corrected our exclusion criteria (Page 5, Line 86-89).

Comment 5: im puzzled why the 5-year recurrence-free and OS are so low considering the entire study cohort is T1a-T1b N0 lung cancers. Any thoughts on this? Were people dying from other causes? This could potentially bias the results given the small numbers of this study. Was any attempt made to calculate cancer-specific survival? I would try to do this. I think this needs to be addressed better in the manuscript.

Reply 5: We thank the reviewer for pointing the main limitation. Due to small numbers of our study, death from other diseases might cause a selection bias. According to your grateful advice, we newly analyzed disease-specific survival (DSS) to eliminate the bias. As a result, 5-year DSS was 86.1% in wedge resection group which were no significance difference compared to completion lobectomy group 86.2% (p=0.87). We feel the comments have helped us significantly improve the manuscript.

Changes in the text: We added Figure 3 and the text to the Methods section (Page 7, Line 131-133.) and Results section (Page 9, Line 168-173.).

Comment 6: What are the recurrence patterns that occurred in both groups? Local v regional v distant? What percentage of wedge resections eventually popped up with loco-regional nodal mets in areas that would be amenable to a lymph node dissection? There is a paper from the cornell group in NYC looking at the need for LN assessment even in wedge resections.

Reply 6: Thank you very much for your excellent suggestion. In our study, 11 of 40 patients had recurrence. We newly defined recurrence subtypes (local, regional and distant) in Table 2. In 23 wedge resection patients, 3 patients (13.0%) had recurrence in ipsilateral hilar or mediastinal lymph nodes.

Changes in the text: We added Table 2 and the text to the Methods section (Page 7, Line 133-135.) and Results section (Page 9, Line 168.).

Reviewer D

Comment 1: What kind of lymph node resection had been performed in all patients.

Reply 1: We grateful thank for your excellent suggestion. Complete and systematic dissection of hilar and mediastinal lymph nodes was performed in all of complete lobectomy cases. On the other hand,

wedge resection was not included lymph node dissection in our institute.

Changes in the text: We added the text to the Methods section (Page 6, Line 121-123.).

Comment 2: Where the margins of the wedge resection analyzed? It would be interesting to know what was the size of the margin and if there was any relation with relapse.

Reply 2: We grateful thank for your excellent suggestion. In our study, no positive margin on initial wedge resection were seen in all of 40 cases.

Changes in the text: We added following the reviewer's suggestion (Page 8, Line 152-153).

Comment 3: The type of recurrence is not specified (local, lymph node of distance)

Reply 3: Thank you very much for your excellent suggestion. In our study. 11 of 40 patients had recurrence. We newly defined recurrence subtypes (local, regional and distant) in Table 2. In 23 wedge resection patients, 3 patients (13.0%) had recurrence in ipsilateral hilar or mediastinal lymph nodes.

Changes in the text: We added Table 2 and the text to the Methods section (Page 7, Line 133-135.) and Results section (Page 9, Line 168.).

Comment 4: The authors say that there are no differences but a tendency to a better survival is seen in the lobectomy group although it disappears along the curve.

Reply 4: Thank you very much for your comment. We agree with your insightful advice. We should comment these results.

Changes in the text: We added the text to the Results section (Page 9, Line 171-172.).