

**Peer review file**

**Article information:** <http://dx.doi.org/10.21037/jtd-20-2574>

**Reviewer A**

**Comment 1**

- Smoking status was self-reported (see lines 120-121). Surgeons interviewed the patients about smoking status and habits (lines 121-122) at three different institutions. Methods of collecting data are not described; for example, was a validated-standardized questionnaire administered? No objective measurement (e.g. carbon monoxide in the expired air or salivary or urinary cotinine) was performed. This is a very important limit, considering the aim of the research.

**Reply 1**

Surgeons interviewed the patients about the duration of smoking, number of cigarettes smoked per day and duration of smoking cessation and reported the findings from the medical records.

This point has now been described in page 7, line 12-14.

Confirmation of smoking cessation was made by the patient's self-report or family report.

This sentence has now been added to page 8, line 3-4.

**Comment 2**

- The retrospective study design cannot explore the stated objective of the research "we examined the effectiveness of short-term cessation for preventing the development of PPCs" (lines 194-196).

**Reply 2**

Although this study was retrospective, we instructed all active smokers to quit smoking by at least four weeks prior to surgery and evaluated the effect of smoking cessation in this study.

**Comment 3**

- The definition of "recent smokers" is unclear. The definition provided in the Abstract "anyone who had stopped smoking within two months before surgery" (see lines 51-52) is different from that provided in the Methods section "anyone who had smoked within 2 months before surgery" (see lines 127-128). Considering the aim of the study, the term "abstainers" would be preferable. However, according to the reported definition of "recent smokers", smokers/abstainers with a highly variable period of abstinence may have been

selected, i.e. from 1 to about 60 days. Such a variable period of abstinence may have affected the outcome of the research. The summary of the study reported in the first paragraph of the Discussion section is of some help. It seems that only subjects abstaining from smoking for at least 4 weeks before surgery were selected.

### **Reply 3**

We changed the term from 'recent smoker' to 'abstainer' as the reviewer suggested.

In addition, the definition of abstainer has now been described as "anyone who had stopped smoking for at least four weeks".

This sentence has now been added Page3, line 12, 13 and Page8, line 4, 5.

### **Comment 4**

- Comorbidity, stage of lung cancer and pack-years were not included among the covariates included in the multivariate analysis and this may have affected the outcome of the research.

### **Reply 4**

We included the pack-year smoking status in the univariate and multivariate analyses.

However, the stage of lung cancer was not included because not only patients with lung cancer but also those with metastatic lung tumors were included in this study. Comorbidity could not be included because of its valid values and the differences in evaluation methods among facilities.

We included the pack-year smoking status in Table 5

### **Comment 5**

- It seems that only a recommendation to quit smoking was provided to the study subjects by the surgeons (lines 123-124), without providing any evidenced-based support (i.e. pharmacotherapy for nicotine dependence in association with counselling) or referring the subjects to smoking cessation clinics or programs. Such an approach, in addition to yield low smoking cessation rates (as well shown in the literature), has also ethical concerns. Indeed, the study subjects were not provided with efficacious supports to quit smoking in occasion of a very favourable event (i.e. thoracic surgery).

### **Reply 5**

The patients who could not quit smoking by themselves were offered access to smoking cessation clinics, smoking cessation programs and stop smoking medication.

This has now been mentioned in the Material and methods section (Page 7 line 17, 18 page 8 line 1).

**Comment 6**

- The definition of the aim of the study provided in the Abstract ("postoperative pulmonary complications" as outcome, lines 44-45) is different from that provided in the last paragraph of the Introduction section ("operative mortality" as outcome, lines 105-107).

**Reply 6**

We revised operative mortality to PPCs in Page 6, line 15.

**Comment 7**

- Line 98. Check: "Enhanced Recovery After Surgery and Society (ERAS)".

**Reply 7**

We changed the text to "Enhanced Recovery After Surgery (ERAS) Society".  
Changed in Page 6, line 8.

**Comment 8**

- Lines 102-103. The affirmation "However, the effect of smoking cessation from at least 4 weeks before surgery has been unclear." should be supported by quoting appropriated references.

**Reply 8**

We have now added the reference mentioning the timing of smoking cessation.  
Change in page 6, line 13.

**Comment 9**

- "Acute exacerbation of idiopathic interstitial pneumonia" was included as a postoperative pulmonary complication (lines 140-143) but it is not mentioned in Table 4.

**Reply 9**

We have now added information on acute exacerbation of interstitial pneumonia to Table 4.

**Comment 10**

- "%VC" and "FEV 1.0%" are not standardized abbreviations. The applied predicted values of lung function values are not provided. The values of FEV1/FVC or FEV1/VC ratio should be provided to show the proportion of airways obstruction (based on goldcopd.org or American Thoracic Society-European Thoracic Society task force definition) among the study subjects.

**Reply 10**

We have now spelled out vital capacity (VC) and forced expiratory volume in 1 second (FEV 1.0) on Page 10, line 10 and 11. FEV 1.0% was the value of FEV1/FVC.

We have now added VC and % FEV1.0 data to table 2.

**Comment 11**

- Lines 130-131, "In the case of patients who could not stop smoking before surgery, we would essentially delay surgery". This affirmation in the Methods section implies that a smoker could have his/her surgery delayed also for some months. The summary of the study reported in the first paragraph of the Discussion section seems to clarify that "Patients who continued to smoke until surgery were not included in this study" (lines 200-201).

**Reply 11**

In patients who were unable to stop smoking before surgery, surgery was postponed until they managed to discontinue smoking for 4 weeks.

This has now been mentioned in page 8 line 8 and page 12 line 6 and 7.

**Reviewer B****Comment 1**

Interesting and valid research question showing short period of abstinence may reduce complications however lack of smoking comparator raises issues, focusing on model would help address this. Unfortunately, smoking status is only self-reported and not validated, is there a cohort who were validated? Unclear if recent smokers also include those who failed to quit prior to surgery until conclusion, need to clarify this in methods.

**Reply 1**

Confirmation of smoking cessation was made by the patient's self-report or family report. This sentence has now been added to page 8, line 3-4.

In the case of patients who could not stop smoking before surgery, surgery was postponed until they managed to discontinue smoking for 4 weeks.

This has now been mentioned in page 8 line 8 and page 12 line 6 and 7.

**Comment 2**

What is the effect of adding pack years into the model?

**Reply 2**

We have now added the pack-year smoking status to the univariate and multivariate

analyses in Table 5.

**Comment 3**

What were the delays on surgery and can you report any tumour progression over this time? Or factor in time from diagnosis? This would make the findings more relevant.

**Reply 3**

Treatment delays may cause tumor progression; we therefore did not extend the smoking cessation period without reason. The optimal timing of surgery was considered according to the guiding principle of each institution. The evaluation of tumor progression during the smoking cessation period was not required to be reported; therefore, we did not have access to the data.

**Comment 4**

Inconsistencies need to be addressed, for example say abstaining for 4 weeks required prior to surgery but final conclusions mention 2 months.

**Reply 4**

We changed the text in the final conclusions from “at least 2 months” to “at least 4 weeks”. Change in Page 15 line 15.

**Reviewer C**

**Comment 1**

Throughout the text, it is written ‘patients with a smoking history’ I believe that the authors imply subjects that still smoke. In my opinion, this could be changed to ‘active smokers’.

**Reply 1**

We changed this term to active smoker as reviewer suggested.  
Changed in page 7, line 14 and page 12, line 2.

**Comment 2**

- In some occasions, the order of listing the 3 different (former-, recent- and never-smokers) categories changes from sentence to sentence, causing confusion (i.e. Lines 57-60). Please keep it consistent

**Reply 2**

We changed the order of listing the 3 different categories to abstainers, former and never as reviewer suggested.

Change in page 4, line 2, 3 and page 10 line 3, 4.

### **Comment 3**

- The text contains a few grammatical and syntax errors. i.e. Line 83, 95, 98, 123, 166). I suggest to have a thorough spell-check throughout the manuscript before definitive submission.

### **Reply 3**

We have corrected the grammatical errors and had a professional medical editor whose native language is English proofread the revised manuscript.

Change in page 6, line 6, 8 and page 7, line 12-14.

### **Comment 4**

- Some cases of unnecessary repetition, i.e. Lines 171, 249

### **Reply 4**

We removed the unnecessary repetition.

### **Comment 5**

- An important issue is regarding the patients that did not manage to cease smoking. It is not very clear if these patients were operated on and just not included in the study or if surgery was postponed until they managed to discontinue smoking for 4 weeks. In the discussion section, some controversy exists (Lines 199-201).

### **Reply 5**

We revised the text from “The patients who could not stop smoking before surgery, we essentially delayed surgery” to “The patients who could not stop smoking before surgery, surgery was postponed until they managed to discontinue smoking for 4 weeks”.

This has now been mentioned in page 8 line 8 and page 12 line 6 and 7.

### **Comment 6**

Could you please clarify that. Furthermore, in case you postponed cancer surgery, were the patients and the hospital board aware of that?

### **Reply 6**

Surgery for the patients who were unable to quit smoking were postponed with the patient's permission.

### **Comment 7**

- In the discussion section (Line 213), it is stated that in the recent smoker group tube

drainage was required for a 'much longer period', although the difference was 1 day. I would suggest rephrasing that

#### **Reply 7**

We removed the word "much".

#### **Reviewer D**

##### **Comment 1**

Although the authors investigated the PPCs, the degrees of PPCs remain uncertain. The evaluations for the degrees of PPCs using Clavien-Dindo classification would make the investigations more significant.

##### **Reply 1**

The postoperative respiratory complications were defined according to the Japan Clinical Oncology Group postoperative complications criteria (Extended Clavien-Dindo classification of surgical complications) with grade $\geq$ 3 complications were extracted.

This has now been mentioned in Materials and methods section.

Added the sentence in Page 8, line 13-14 and reference No.14.

##### **Comment 2**

In this study, the authors defined the short-term cessation as stopping smoking within two months. What are the reasons for that? For instance, how about defining the short-term cessation as current smokers when the operations are scheduled, since you instructed patients to quit smoking by at least 4 weeks prior to surgery?

##### **Reply 2**

We change the term 'recent smoker' to 'abstainers' as Reviewer A suggested. The definition of abstainers was anyone who had stopped smoking at least 4 weeks but less than 2months.

This comment was described in page 8, line 2, 3.

##### **Comment 3**

Indeed, PPCs were observed more frequently in the short-term cessation group compared with other groups, but patients in this group tend to have poorer pulmonary functions, which was also observed in this study. Therefore, the frequency of PPCs seems to be influenced by not the only short-term smoking cessation but also the poor pulmonary function. In addition, the duration of chest drainage could be influenced by emphysematous changes caused by smoking. These facts should be considered as study

limitations.

**Reply 3**

The mean FEV 1.0% values in the former smoker group and abstainers group were 72.8% and 71.5%, respectively ( $p=0.208$ ). The mean FEV 1.0% was not significantly difference between two groups. Although emphysematous changes were observed in both the abstainer and former smoker groups, the mean duration of tube drainage was significantly longer in the abstainers group than in the former smoker group.

**Comment 4**

Please add the %FEV1 and measured FEV1 to the Table 2 as well as the main text.

**Reply 4**

We have now added the value of VC, FEV 1.0 and %FEV1.0 to the Table 2.

**Comment 5**

In multivariate analysis, the smoking status was not detected as a significant predictive factor for PPC, while sex and surgical procedure were detected as significant predictors. From these results, the conclusions in the abstract should be changed.

**Reply 5**

We revised the conclusion as follows: “Short-term smoking cessation intervention did not enough reduce the PPCs as much as in former or never smokers”.

Change in page 4, line 11,12.

**Comment 6**

Page 7, line 211. Please remove the word “many”.

**Reply 6**

We removed the word “many”.

**Reviewer E**

**Comment 1**

There is a reference to “intestinal pneumonia” throughout the paper which is a term I do not know.

**Reply 1**

We apologize for this error; we have now corrected from ‘intestinal pneumonia’ to ‘interstitial pneumonia’.

**Comment 2**

No objective measurement of compliance with smoking cessation.

**Reply 2**

Confirmation of smoking cessation was based on the patients' self-report or family report.

**Comment3**

They excluded active smokers which seems to be the comparison group of interest. Because of that, we don't know if the cessation group had a significantly lower rate of complications than they otherwise would have had.

There isn't anything new in knowing that recent active smokers have higher pulmonary complications- I think everyone knows that.

**Reply 3**

It is well known that recent active smokers have more pulmonary complications than others as the reviewer mentioned. In this study, we evaluated whether or not smoking cessation for at least 4 weeks was an optimal smoking cessation period.

**Comment 4**

I'm not sure there is much new here and it's hard to see how the above issues can be addressed if the data on compliance and the active smoker data isn't available. If it is, a major revision could resolve these issues.

**Reply 4**

Active smokers were excluded from this study, as we did not perform surgery on patients who were very likely to have complications.