Peer Review File

Article information: https://dx.doi.org/10.21037/shc-23-43

Review Comments

To Reviewer A

Introduction

Comment 1:

- Consider providing more background on decisional conflict, patient-reported outcomes, and shared decision-making in thoracic surgery. This would strengthen the rationale for the study.

Reply 1:

We added some descriptions in 2nd paragraph of Introduction and Discussion.

Changes in the text:

"Thoracic surgery has been performed for various thoracic diseases such as lung cancer, metastatic lung disease, inflammatory lung disease, and mediastinum tumors. A minimally invasive surgical technique, video-assisted thoracoscopic surgery (VATS), has been developed for thoracic surgery, and has spread worldwide for nearly three decades. Small lesions are a good indication for VATS, but, even today, big nodules require open thoracotomy, one of the most painful and invasive surgeries. Depending on the extent of lung resection, postoperative respiratory dysfunction of varying degrees may be provoked, resulting in discomfort and complications which may cause patients to feel anxious in advance of their surgeries. Therefore, patients who plan to undergo thoracic surgery may feel conflicted in the decision-making process." in Introduction.

"When we were planning this study, there was a lack of research regarding decisional conflicts of patients who were planning to undergo surgery, but some resent studies have reported on decisional conflict in the surgical field. Gainer and colleagues addressed personalized decision aids for cardiac surgery patients and studied decisional conflict in patients with and without shared decision making (SDM) (14). They reported that the decisional conflict scale was lower in the SDM group (mean, 1.76 vs. 5.26). The values of both groups were significantly lower compared to the results of our study and previous reports (7,10). Rosen and colleagues performed randomized testing for a healthy population at risk of acute appendicitis and reported that using their developed decision support tool was useful in decreasing DCS scores for management of acute appendicitis (15). SDM is a way to decrease patient anxiety and decisional conflict. A number of reviews have studied SDM in surgical patients. Niburski and colleagues systematically reviewed publication associated with SDM in surgical decision-making and reported that SDM decreases decisional conflict and anxiety (16). Dalmia and colleagues published a systematic review studying early-stage non-small cell lung cancer and indicated that clarifying patient preferences and values during decision-making processes for treatment allowed

clinicians to facilitate more effective SDM (17).” in Discussion.

Methods

Comment 2:

- Consider further explaining why different versions of DCS were used and justify the modifications performed.

Reply 2:

The old version of DCS was relatively longer, so that we shorten the questionnaire to address patients request, as we describe in Measurement of decisional conflict in Methods.

Changes in the text:

We added some descriptions in limitation of Discussion, “In this study, we used different versions of DCS questionnaire, which constitutes another study limitation” in line 265.

Comment 3:

- Consider describing any standardisation training for administering the surveys. This would ensure quality control.

Reply 3:

We did not perform any special training for administering the survey. In this study, one physician explained the questionnaire to the patients in all cases.

Changes in the text:

We added the description in Methods, “One physician, HK, explained the survey to all patients” in line 89.

Comment 4:

- Consider including a flow diagram showing patient recruitment, enrolments, exclusions, and retention. This would clarify the study design.

Reply 4:

We made a figure to show a flow diagram in Figure 1.

Results

Comment 5:

- Consider adding a table to summarise demographic and clinical characteristics of the patient cohort.

Reply 5:

We made a table to summarize patient background in Table 1.

Comment 6:

- Consider adding graphs to depict changes in key DCS/QOL scores over time. Visualisations enhance understanding.

Reply 6:

We made the graphs in Figure 2 and 3.

Discussion

Comment 7:

- Consider comparing the results of your study to other surgical decision-making studies in more detail. How do they specifically align or differ?

Reply 7:

Changes in the text:

We added some discussions in Discussion, "When we were planning this study, there was a lack of research regarding decisional conflicts of patients who were planning to undergo surgery, but some resent studies have reported on decisional conflict in the surgical field. Gainer and colleagues addressed personalized decision aids for cardiac surgery patients and studied decisional conflict in patients with and without shared decision making (SDM) (14). They reported that the decisional conflict scale was lower in the SDM group (mean, 1.76 vs. 5.26). The values of both groups were significantly lower compared to the results of our study and previous reports (7,10). Rosen and colleagues performed randomized testing for a healthy population at risk of acute appendicitis and reported that using their developed decision support tool was useful in decreasing DCS scores for management of acute appendicitis (15). SDM is a way to decrease patient anxiety and decisional conflict. A number of reviews have studied SDM in surgical patients. Niburski and colleagues systematically reviewed publication associated with SDM in surgical decision-making and reported that SDM decreases decisional conflict and anxiety (16). Dalmia and colleagues published a systematic review studying early-stage non-small cell lung cancer and indicated that clarifying patient preferences and values during decision-making processes for treatment allowed clinicians to facilitate more effective SDM (17)" in line 249.

Comment 8:

- Comparing retention rates to similar studies would provide context on generalizability.

Reply 8:

Changes in the text:

We added some comments in limitation of Discussion, "the many missing patients constitute a study limitation compared to other similar studies" in line 264.

Comment 9:

- Consider discussing limitations of your study in more detail (e.g., sample exclusions, single centre, questionnaire loss).

Reply 9:

We added more limitations following reviewers' comments.

Changes in the text:

We added the discussion, "the many missing patients constitute a study limitation compared to other similar studies (14,15). In this study, we used different versions of DCS questionnaire, which constitutes another study limitation. Data related to cognitive functions of patients was not available for this study, and we also did not study the relationships between family members and medical staffs. Decisions in postoperative adjuvant therapy would provide another decisional conflict for patients. The relationship between decisional conflict in surgical decision-making and adjuvant therapy was not examined in this study. Postoperative patient course and surgery types may be important factors contributing to patient satisfaction, but duration of hospital stay and chest tube drainage were not examined in this study. We did not research which specific patient support measures would be more helpful in reducing patient conflict and increasing patient satisfaction. Based on our findings, we hope to design a specific program themed around patient decisional support in future studies" in Discussion.

Conclusions

Comment 10:

- Consider emphasising clinical implications and proposing specific decision aids that could be tested to support this population based on the results. This would give directions for future research.

Reply 10:

Changes in the text:

Based on our findings, we added some descriptions about specific decision aids in Conclusions, "such as visiting operation rooms, ICUs, and hospital wards and viewing videos about various situations associated with perioperative management" in line 281.

To Reviewer B

Major comment.

Comment 1:

1. Decision support is important to reduce these preoperative and perioperative conflicts about whether a patient should have undergone surgery, should not have undergone surgery, or would have been better off choosing an alternative treatment. As a result, the authors claim that a series

of surgical experiences led to lower DCS scores. Then, a more specific description of what decision support is an act of decision support would be desirable.

Reply 1: As we mentioned in Conclusions, we consider that decisional support for patients to organize concrete perioperative management would ameliorate patient satisfaction.

Changes in the text:

For more detail, we added some descriptions in Conclusions, "their concrete perioperative management, such as visiting operation rooms, ICUs, and hospital wards and viewing videos about various situations associated with perioperative management" in line 281.

Comment 2:

2. The authors state that postoperative management leads to improved patient decision-making and quality of life. However, it does not seem to describe any specific measures to help patients organize their perioperative period. Is there a need for more support systems, frequent explanatory opportunities, or special programs? If there were such interventions in this study, it would be desirable to describe them, as the interpretation of the results would be different.

Reply 2:

Changes in the text:

We added some descriptions about our management of patients in Methods, "Information of perioperative patient management was supplied to patients via written documents and videos in outpatient clinics. After admission, doctors and nurses of hospital wards, operation rooms, and ICUs visited patients to explain each aspect of patient management" in line 101.

But, in this study, we did not compare any special program for patient support. The findings of this study would be a basic data in our clinical practice. And we think, in the future study, we can compare decisional conflict with our trial.

Changes in the text:

We added some description in limitation, "We did not research which specific patient support measures would be more helpful in reducing patient conflict and increasing patient satisfaction. Based on our findings, we hope to design a specific program themed around patient decisional support in future studies" in line 271.

Minor comment.

Comment 3:

1. Please state the age range or standard deviation for the 496 subjects.

Reply 3:

Changes in the text:

We added standard deviation of age in line 174.

Comment 4:

2. **Were there any considerations for cognitive function in order to conduct an appropriate study? Also, Were there responses by family members, medical personnel, or other proxies?**

Reply 4:

Analysis with data of cognitive function, and responses by family, medical personnel, and other proxies might improve findings of this study. But we don't have those data.

Changes in the text:

We added the statement as limitation in Discussion, "Data related to cognitive functions of patients was not available for this study, and we also did not study the relationships between family members and medical staffs" in line 266.

Comment 5:

3. **How were patients with skin incisions of 8 cm to 10 cm treated?**

Reply 5:

Surgery with skin incision of over 8 cm were classified to open thoracotomy.

Changes in the text:

We added the description in Methods, "Open thoracotomy was defined as surgery with skin incisions of over 8 cm" in line 160.

Comment 6:

4. **Could postoperative changes in decision-making capacity affect subsequent treatment decisions, such as radiation therapy or chemotherapy?**

Reply 6:

That is good question. But we did not study.

Changes in the text:

We added the statement in limitation, "The relationship between decisional conflict in surgical decision-making and adjuvant therapy was not examined in this study. Postoperative patient course and surgery types may be important factors contributing to patient satisfaction, but duration of hospital stay and chest tube drainage were not examined in this study" in line 268.

To Reviewer C

Comment 1:

1. **In my opinion an important factor in patient satisfaction would be "length of stay and chest tube duration" and you don't mention it in the article.**

Reply 1:

In patient satisfaction, length of stay and chest tube duration would be important factors. In this study, main research is for decisional conflict in decision-making before surgery. In the future study, postoperative course can be examined for relation with patient satisfaction.

Changes in the text:

We added some description as limitation, "Postoperative patient course and surgery types may be important factors contributing to patient satisfaction, but duration of hospital stay and chest tube drainage were not examined in this study" in line 269.

Comment 2:

2. **You do not detail the type of surgery. Do you think this could be a confounding factor on the questionnaire? Please explain.**

Reply 2:

In this study, we defined type of surgery as open thoracotomy and VATS. We expected that the difference would impact decisional conflict. But we think more detail of surgical procedures, such as lobectomies or segmentectomies, have little impact on the decisional conflict. Anyway, we did not examine in this study.

Changes in the text:

We added some description in limitation, "Postoperative patient course and surgery types" in line 269.

Comment 3:

3. **You said line 286 "Therefore, in our study, the medical staff and institution ability was considered insignificant in patient decisional conflict." Please develop this sentence, it seems to be an important factor in the decisional process. How many Physician in this study? There is difference between surgeon on DCS?**

Reply 3:

As we discussed in line 241, we did not study abilities of medical staffs and institutions in this study. As we described in Methods, Decision making for thoracic surgery, two thoracic surgeons explain our surgeries. We added analysis to examine difference of DCS between surgeons. But that was not statistically significant.

Changes in the text:

We added the description in Results, "The total DCS scores did not differ between surgeons at any time points (p-values: 0.13, 0.75, 0.46, respectively)" in line 184.

Comment 4:

4. **Finally, a little comment: In your opinion how to improve patient satisfaction in our clinical**

practice and what are the areas for improvement to follow?

Reply 4:

In terms of patient satisfaction, I think that hospitality, attitude of staffs to deal with patients, is the most important factor, that need much effort to continuously maintain to be in high quality.