Peer Review File

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Reviewer A: I was asked to review a manuscript entitled, "Shared Decision-Making for Prophylactic Cranial Irradiation in Extensive-Stage Small-Cell Lung Cancer: An Exploratory Study." Overall, the paper is well-written and analyzed.
Seven radiation oncologists trained in Shared Decision-Making and 25 patients with ES-SCLC were evaluated. The authors found that ES-SCLC patients prefer to be involved in their treatment choice for PCI, but a substantial number of patients reported a decisional conflict.
Despite the great effort of the work, the limitations and study design do not qualify for publication in TLCR.

Comment 1: Limitations:
- small number of patients and long recruiting time may result in a selection bias
- single-center study
- limited generalizability of their findings

Reply 1: We thank the reviewer for raising the issue of the study's limitations. It is indeed true that our sample size is small, as ES-SCLC is a disease area with a small population. For instance, the two landmark studies about PCI for ES-SCLC by Slotman et al. (2007) and Takahashi et al. (2017) were able to recruit 286 and 224 patients respectively over 35 and 47 centers over a period of 4-5 years. A multi-center design would have given us a larger sample, however it was beyond the scope of this exploratory work.

While we agree that the study design has the afore-mentioned limitations, we believe that limited data should not be a reason to discount exploratory work in a sparsely studied disease area, but should function as the starting point for discussion in the medical community about how to improve care in this complex choice. This is particularly relevant in light of the latest ESMO guidelines that now recommend shared decision-making for PCI in ES-SCLC patients. We have added these points in our manuscript along with emphasis on the exploratory nature of this study and the need for such work.

Changes in the text: We have added these points to our main text in three locations:
- Abstract: page 3 (lines 33-35)
- Introduction: page 5 (lines 67-70) and page 6 (lines 79-84 and lines 86-87)
- Discussion: on page 23 (lines 342-346) and page 24 (lines 362-367.)

Reviewer B: While I do not have a direct COI related to the topic of this manuscript, I do have ongoing collaborations with the authors (I did not see the author

list when accepting the invitation to review). I really think this manuscript is a valuable contribution to patient preference related to shared decision-making and decisional conflict in lung cancer. I found only two minor typos and recommend acceptance.

Comment 1: typos:
Methods/Participants: interaction and inputs from the clinicians WERE? encouraged
Extent of decisional conflict: "and that the decision difficult to make" -> and that the decision WAS? difficult to make

Reply 1: We thank the reviewer for their comments and for bringing to our attention the typos. They have been corrected as described below.

Changes in the text: We have replaced “was” with “were” (page 7, line 108), and added “was” (page 18, line 255.)

Reviewer C
Comment 1: The research content of this article is innovative, but the number of Radiation oncologists and ES-SCLC patients studied is small, and the data is not convincing.

Reply 1: We thank the reviewer for the feedback. The sample of patients and radiation oncologists is indeed small, as our study is of an exploratory nature in a disease area that is rather neglected in the literature. Lung cancer in general is not considered a preference-sensitive condition like certain other cancer types and therefore little data is available on patient preferences. However, this is changing with the latest ESMO clinical practice guidelines that suggest shared decision-making for PCI in ES-SCLC. Therefore, even though our study is small, it represents the first step in improving outcomes by implementing shared decision-making.

Comment 2: In addition, factors such as age, education level, and work engaged in will also affect the patient's compliance with voluntary PCI, and a subgroup analysis is recommended.

Reply 2: A subgroup analysis would indeed be valuable with a larger sample. Due to the small sample and number of patients deviating from PCI guidelines, we found that a subgroup analysis on our data resulted in too small subgroups to draw meaningful conclusions and a large risk of type I errors.

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87)

- Discussion: on page 23 (lines 342-346) and page 24 (lines 362-367.)