Peer Review File

Article Information: https://dx.doi.org/10.21037/jgo-22-1151

Reviewer A

Outcomes in octogenarians following elective colorectal cancer surgery
The authors reported the "Outcomes in octogenarians following elective colorectal cancer surgery". This article is an interesting, and useful contribution. On the other hand, the methodology of this paper, I think there is a decisive problem, such as the following.

Major comments,
1) The study lacks objectivity and credibility because it does not describe the details of the method of evaluating LOI, which is considered important in this study.

Reply 1: Thank you for the comments. Whilst various definitions of loss of independence (LOI) have been used in previous literature, we have used the functional definition of LOI as a change in the activities of daily living (ADLS) requiring permanent aged care placement, we have amended the introduction, see lines 146-149. We have also amended our methodology to include our measurement of LOI, see lines 184-188, as a measured change in ADLs requiring aged care placement assessed in pre-operative and post-operative allied health and medical clinics.
Changes in the text: We have amended the introduction, see lines 146-149 and lines 184-188.

2) "Gait aids were also associated with higher Clavien-Dindo scores (p 0.057) and increased length of stay (p 0.009)." However, there is no Table or Fig. that shows the results.

Reply 2: Thank you for the comment. We have now included this in supplementary Table 1 and 2.
Changes in the text: See supplementary table 1 in lines 554-555 and supplementary table 2 in lines 578-579.

3) The results of this study cannot be verified as favorable outcomes because it is a retrospective study, the sample size is small (41 cases), and it is not a comparative study.

Reply 3: Thank you for the comment. Our conclusion has been amended, and instead our results support that outcomes in this group demonstrated no major post-operative morbidity or mortality. We have acknowledged the limitation of our small cohort size and lack of comparator, however given our longer-term functional outcome data we have found that the long-term maintenance of independence in this cohort can be achieved with appropriate pre and post-operative optimization.
Changes in the text: See lines 312-315 and lines 410-411.

Minor comments,

1) There are many abbreviated words in sentences and tables, and the paper is not well presented.

Reply 1: Thank you for the comments. We have now included an abbreviations section to clarify the terms used and tables have been thoroughly read to define any words and terms.
Changes in the text: See lines 89-96 and tables within the paper.

2) Essentially, ASA score, Clavien-Dindo classification score, and tumor stage should not be described in terms of MEDIAN or AVERAGE.

Reply 2: Thank you for the comment. These have now been changed to the mean score, as well as adding interquartile range (IQR).
Changes in the text: Updated reporting of mean ASA and CD scores throughout the manuscript.

3) Table 3 represents how many scores or more in the Clavien-Dindo classification?

Reply 3: Thank you for the comment. Table 3 represents the numbers of post-operative complications with the percentages of each outcome.
Changes in the text: Lines 535-536.

Reviewer B

General comments:

1. The citations which you have made seem rather outdated, with some papers from the early 2000s. Given contemporary literature, there is definitely enough recent material (last 3 years) for citations. Please revise this.

Reply 1: Thank you for the comment. We have now amended the introduction and discussion to include the most recent literature.
Changes in the text: See introduction lines 130-141 and discussion lines 328-360.

Introduction:

1. Loss of independence is an interesting parameter, but more details are required. Please describe what this means, and its definition. Please also cite further articles which have looked at the loss of independence amongst octogenarians.

Reply 1: Thank you for the comment. Whilst various definitions of loss of independence (LOI) have been used in previous literature, we have used the functional definition of LOI as a change in the activities of daily living (ADLS) requiring permanent aged care placement, and thus we have amended the introduction, see lines 146-149. We have also amended our methodology to include our measurement of LOI, see lines 184-188, as a measured change in ADLs requiring aged care placement assessed in pre-operative and post-operative allied health and medical clinics. We have included literature citing loss of independence in octogenarians in the introduction and discussion.
Changes in the text: We have amended the introduction, see lines 146-149 and lines 184-188

regarding definition of LOI and its measurement. See lines 144-152 and 385-197 for literature citations on LOI.

2. Outcomes should go into methods and should not be discussed here.

Reply 1: Thank you for the comment. This has now been changed to the methods section.
Changes in the text: See lines 175-182.

Methods:
1. The sample size is small. Is there a possibility of recruiting more patients? Perhaps you might be able to extend the period?

Reply 1: Thank you for the comment. Given the small cohort of this population and time limitation we felt we were unable to recruit more patients. However, we have cited a recent paper by Cross et Al. commenting on the surgical outcomes of octogenarians utilizing data from our institution and region (through Australia and New Zealand Binational Colorectal Cancer Audit). Furthermore, given the aforementioned limitation, we have focused our paper on the long-term functional outcomes of this cohort.

Changes in the text: See lines 346-352.

Results:
1. I feel it would be useful to compare those >80 and those < 80, and to reflect these findings in your tables. Perform statistical tests to compare the octogenarian and the non-octogenarian groups. This would help us understand the baseline burden of disease in your community, and to see how the octogenarian group deviates from this.

Reply 1: Thank you for the comment. Given the small cohort size we felt we were not able to do this, however we have cited the study by Cross and colleagues commenting on the comparison between those >80 and <80 years of age. As our institution contributes data to this Binational audit, we have noted the baseline burden of disease commented on in this paper.
Changes in the text: See lines 346-351 and 361-367.

2. Would you consider also adding an additional group of 70 - 80? This allows us to gain granular detail about how octogenarians are different from those just a little less elderly, lending greater impetus to your results.

Reply 1: Thank you for the comment. Given the limitation of our cohort size we felt we were unable to gain sufficient numbers to add to this additional group over this time frame. We have instead cited previous literature on this comparison.
Changes in the text: See lines 343-346 and 346-352.

3. A lot of the results are just observational in nature. Having the additional groups would make this study more meaningful.

Reply 1: Thank you for the comment. However given the limitation of the small cohort we have felt we were unable to sufficiently add additional groups to make comparisons. Given previous literature on this as such we have focused on the longer term functional outcomes which were not well described.

4. I find it difficult to reconcile how a 92% ASA3 cohort can have 70% ECOG score of 0. While I do understand that ASA and ECOG are different, they certainly are correlated. Please comment.

Reply 1: Thank you for the comment. We acknowledge that the ECOG score whilst is commonplace due to the ease of use, has limitations. These include that it can be observer dependent, unidimensional and may not entirely take into account frailty. We have amended the discussion to state the limitation of using the ecog score alone, however, as such we have instead focused on the change in ECOG to better assess the effects functional changes resulting from surgery in this age group.
Changes in the text: See lines 406-409.

Discussion:
1. I'm not sure I really agree with the statement that your surgery shows that surgery in octogenarians is safe. What is the baseline? Not having a true comparator group makes your claim difficult to substantiate.

Reply 1: Thank you for the comment. Our conclusion has been amended, and instead our results support that outcomes in this group demonstrate no major post-operative morbidity or mortality. We have acknowledged the limitation of our small cohort size and lack of comparator, however given our longer-term functional outcome data we have found that the long-term maintenance of independence in this cohort can be achieved with appropriate pre and post-operative optimization. We have also instead commented on the paper by Cross et Al utilizing data to which our institution contributes as part of a larger registry study on the baseline comparison of our cohort.
Changes in the text: See lines 312-315 and lines 410-411.

2. This is not the first study to do what you've done. Please see PMID: 34312720. At the very least, please cite this and other studies which have done similar work.

Reply 1: Thank you for the comment. We have amended the discussion to include the above article and other similar articles on this topic.
Changes in the text: See lines 328-360.

3. Line 234- 235, "comparable to several recent studies". Please cite the studies.
Reply 1: Thank you for the comment. This has now been amended in the discussion.
Changes in the text: See lines 368-371.

4. The discussion needs to beyond a description of the results into critical analysis. I would recommend summarizing all the descriptive components into one or maximum of two paragraphs, and adding additional analyses. In particular, If age alone is not a useful factor, please expound on better modalities to measure patients. How would you recommend clinical practice be changed.

Reply 1: Thank you for the comment. The discussion has been amended to reflect the feedback and the recommendation for clinical practice implications have been commented in the conclusion.
Changes in the text: See lines 312-409 and 413-419.