Reviewer’s report

Title: The impact of surgical experience and frequency of practice on perioperative outcomes in pancreatic surgery

Version: 0  Date: 16 May 2019

Reviewer: Adam Schofield

Reviewer's report:

The group has identified technical training of complex surgical procedures as a complicated and evolving matter, especially in the context of the current outcome-driven environment. A review of the literature has been conducted showing there are well established learning curves in pancreatic surgery and that experience level has been correlated with better operative outcomes. The group retrospectively looked at twenty years of pancreas surgery to investigate the relationship between experience level and operative outcomes as well as frequency of practice in operative outcomes. They have proposed three hypotheses 1) Stringent case selection and intensive supervision will result in comparable postoperative morbidity of novices and experienced surgeons. 2) Reduction of supervision and less stringent case selection will impair outcomes (Figure 1). 3) Frequent practice of pancreatic resections will improve perioperative outcomes.

Overall the paper has identified a pertinent topic in surgical education, that is the transfer of technical skill in complex surgical tasks. Regarding methods, the group retrospectively analysed patients undergoing pancreatic resections between 1993-2013, and using appropriate statistical tools, investigated the relationship between experience and frequency with operative outcomes. The paper seems more strongly focused on the relationship between surgeon experience and outcomes, which has already been very well established in the literature. In addition, based on the results of beginner and experienced surgeons having similarly good outcomes compared the intermediate surgeon, this is almost certainly secondary to the amount of supervision/independence of the trainee, which was not quantified. Figure 1 is essentially a pictogram showing the anecdotal relationship of decreased supervision with more experience but does not actually quantify any concrete data. Would get rid of this. However, this does raise the important point that increasing trainee autonomy, an inevitable part of training, may be associated with higher complication rates, which should still be included as a discussion point.

What is more impressive about this paper is the relationship it shows between frequency of operations on the shorter term (number of resections in 6 weeks) and improved outcomes. Most of the literature talks about case volume per year, whereas this study shows a very real difference
in outcomes of surgeons practicing more frequently in the short term. The manuscript would have more impact if this was the primary focus as it is a more novel concept.

Would include rates of R0, R1 and R2 resections as an outcome, as quality of resection is as important if not more so than the rate of post-operative complications.

From an ease of reading perspective, would write out abbreviations in full the first time they are used, even with the appendix at the end.

**Are the methods appropriate and well described?**
If not, please specify what is required in your comments to the authors.

Yes

**Does the work include the necessary controls?**
If not, please specify which controls are required in your comments to the authors.

Yes

**Are the conclusions drawn adequately supported by the data shown?**
If not, please explain in your comments to the authors.

Yes

**Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?**
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

**Quality of written English**
Please indicate the quality of language in the manuscript:

Acceptable

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