Reviewer’s report

Title: Preoperative versus postoperative ultrasound-guided rectus sheath block for improving pain, sleep quality and cytokine levels in patients with open midline incisions undergoing transabdominal gynecological surgery: A randomized-controlled trial

Version: 1 Date: 28 Nov 2017

Reviewer: Harshad Gurnaney

Reviewer’s report:

The authors have not mentioned preoperative in the last line of the results section in the abstract in describing the 2 groups. "The preoperative IL-6 concentration in the RSB group was lower than that in the RSB group at the end of surgery and 24 hours postoperatively."

The statement at the end of the introduction combines all the primary and secondary objectives. Please state what is primary and what are secondary hypotheses. Also state what is the null hypothesis (no difference) in the manuscript as you have in the response to this question. The above statement is a combination of both with not a well-defined hypothesis but a collection of positive and negative statements as it uses words like "subtle influence on sleep time", would not decrease cytokine level and states that the hypothesis is that the postoperative RSB group would have a longer duration (so the alternate hypothesis).

The authors have not included the response to sample size of 61 instead of the projected 64 in the manuscript though they have done so in the response to the question. Please add this to the manuscript as well.

Response: The effect size (ES) was 0.712. We did not randomize 10% of the patients in each group in the real trial to ensure that we have an adequate sample size due to the limitations in funding. Thank you very much for reminding us. Group sample sizes of 30 and 31 achieve 85% power to detect a difference of 17.6 between the null hypothesis and the alternative hypothesis. The group means were 211.5, and the alternative hypothesis was that the mean of group 2 would be 229.1 with known group standard deviations of 35.3 and 42.1 and a significance level (alpha) of 0.05000 using a one-sided two-sample t-test with PASS11 software (NCSS LLC, Utah, USA).

The authors have included the 95% CI of the difference for the normally distributed continuous variables. Please add the mean difference as well for these variables and report it as mean difference (95% CI of the difference)

In the first paragraph of the discussion the first line combines the primary objective and the secondary objective as they are the 2 findings with no difference. Please report the primary objective separately first and then report on the secondary objectives in the results.

The authors state in the discussion section that the "Two questions that motivated this clinical trial can be answered. First, surgeons always found "water" in their incision when the RSB was
performed preoperatively”. This has not been mentioned before in the introduction or the methods. Was this still a significant problem or just an observation by the surgeons. How far lateral was the RSB placed in relation to the rectus muscle (middle of the rectus muscle or close to the lateral border of the rectus abdominis muscle)? This should be moved to introduction if the authors want to mention this as a reason for doing the study.

Can the authors elaborate on the statement "In contrast, the change in the local anatomy and the broken nerve terminal worried some the anesthesiologists as they finished the postoperative procedure." How did the anesthesiologists observe the broken nerve terminals? Was the changes in local anatomy noticed postoperative swelling of the muscles from the retraction and or dissection?

I think this entire paragraph on page 14 prolongs the discussion as does the discussion of multiple studies plasma concentrations. Please reduce this to one or 2 sentences to reduce the length of the discussion and focus on the objectives of the study.

**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

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Please indicate the quality of language in the manuscript:

Needs some language corrections before being published

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