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: 0 Date: 24 Oct 2017

Reviewer: Harshad Gurnaney

Reviewer’s report:

The authors have submitted a RCT regarding the use of RSB for open gynecological procedures. I have the following comments/questions for the authors.

In paragraph 3 of the introduction the authors talk about comparing location of injection and timing. I do not think the discussion about location of injection is relevant to this manuscript and should be removed.

The authors also state that "However, little information is available about the effect of RSB on sleep quality and the inflammatory response during the immediate postoperative period." But as this study has not control group (no RSB with local infiltration) the author cannot compare these findings to a group without a rectus sheath block and so cannot comment on this question they raise.

The authors have not stated their objectives clearly. The introduction ends with "We hypothesized that performing RSB after surgery would result in a longer duration of analgesic effects and have a subtle influence on sleep time after surgery" > Please state what is primary and what are secondary hypotheses. Also state what is the null hypothesis (no difference) and alternate hypothesis. The above statement is a combination of both with not a well-defined null hypothesis or a set of objectives.

Another set of objectives are stated in the methods "The objective of the trial was to evaluate the postoperative pain, sleep quality and changes in cytokine levels of patients undergoing gynecological surgery with RSB performed preoperatively versus postoperatively." You have listed a different list of primary and secondary objectives in study outcomes. Please remove all other objectives or hypothesis references and be consistent with the hypothesis. Is the primary objective the hypothesis as well?

What surgical procedure were included? Please list them.

For the power calculation please provide the effect size (ES) as you have used it for the sample size calculation. Also the sample size was 32 per group (64 total) but the final evaluable was 61 was this study underpowered. Please report the power for this sample size. Why did the authors
not add more subjects after the loss to follow-up events or account for some loss to follow-up (about 10%) is seen in many RCTs.

For the VAS scores and oxycodone use in the 2 time intervals why are medians and IQR reported. Please present means and 95% CI for all the variables. Also please report the difference in means and CI for the difference in means for the primary and secondary objectives for all continuous variables.

For the inflammatory markers can you provide details on the clinical significance of the differences in levels for IL-6 found between the 2 groups. Also the marker discussed in the discussion is IL-6; what is the clinical significance of the other 3 markers? The IL-1 and INF seem different at baseline between the 2 groups, what is the implication of that?

The authors mentioned that the patient in the pilot study reported discomfort with the urethral catheter and suggested methods to alleviate this. Were these strategies deployed in the study patients. If urethral catheter was used did it stay in place for all patients for the first 48 hours postoperatively? Did any of the patients report discomfort from it? How did this effect the sleep and IL-6 levels?

In the conclusions the authors have not mentioned the lack of difference in time to rescue, pain scores and opioid use which were the primary and secondary objectives listed. Please add these and discuss the importance of these findings that were observed between the 2 groups.

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

No

**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.

No

**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:

Not suitable for publication unless extensively edited

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