**Reviewer’s report**

**Title:** Effect of low dose naloxone on the immune system function of a patient undergoing videoassisted thoracoscopic resection of lung cancer with sufentanil controlled analgesia — a randomized controlled trial.

**Version:** 0  **Date:** 07 Oct 2019

**Reviewer:** Vojislava Neskovic

**Reviewer's report:**

In the manuscript

Effect of low dose naloxone on the immune system function of a patient undergoing video-assisted thoracoscopic resection of lung cancer with sufentanil controlled analgesia — a randomized controlled trial.

authors presented RCT on effects of low dose naloxone on the levels of opioid growth factor (OGF) and immune response (Natural killer cells and T leucocytes) in patients after VATS lung cancer surgery.

Topic is very interesting, well selected, new and very intriguing since immune response might be modified and, possibly, affect overall outcome.

Manuscript is very well written, clear, well explained, methodology clean and results well presented.

Some minor questions may be better clarified:

1. Obviously authors present that low dose naloxone affects levels of OGF which is positive outcome of this study. However, there is a bit of a confusion regarding NK cells: Authors declare that NK cells significantly increase at 48 hours after surgery, however, we see from the tables that indeed, there is a decrease of NK cells comparing to the time before surgery, that the number increase in the naloxone group while still decreasing in the non naloxone group, but over all there is no significant difference between the groups. This may be better explained.
2. It is good to discuss a clinical relevance of the results. Authors present less nausea in naloxone group, however, non naloxone group was also rather well managed (0 vs 1 class). What do authors think, should this be reason to indicate low dose naloxone?

Same goes with VAS scores, although significantly different, VAS scores were low for both groups and the pain well managed. Would this be enough to include low dose naloxon in the protocol of everyday practice? What was shown as a clear benefit?

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
**Declaration of competing interests**

Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

I declare that I have no competing interests

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license ([http://creativecommons.org/licenses/by/4.0/](http://creativecommons.org/licenses/by/4.0/)). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal