Author’s response to reviews

Title: Subpleural multilevel intercostal continuous analgesia after thoracoscopic pulmonary resection: a pilot study

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Author’s response to reviews:

Dear reviewers,

Thank you for the prompt and positive review of our manuscript. We will comment on your comments point-by-point as requested in the editorial decision letter.

Reviewer #1: Study describes a novel parenteral administration of continuous narcotic therapeutic analgesics without the risk and complications seen in that of epidural administrated therapeutics. This study did not prove non-inferiority but is able to discuss feasibility within an area without universal consensus. More studies will be required to understand this modality more. Great study.

Answer: Thank you for reviewing our manuscript and your positive reaction.

Reviewer #2: The authors report the results of a pilot study on a small sample of patients submitted to lung resection by VATS comparing the outcome in terms of pain score and satisfaction of two different tools: epidural analgesia vs subpleural continuous analgesia. The authors didn't find significant differences between the two approaches concluding that the SCA is feasible and safe. The paper suffers of several biases, not all addressed in the discussion.

Answer: Thank you for reviewing our manuscript, we agree that several biases are included in our study and we will address your specific comments below.
Reviewer #2: The study is not randomized, TEA group is a retrospective group. Despite not significant differences in most of parameters included in the two groups, it is evident that the two groups are not perfectly comparable in terms of number of ports, type of resection, type of postoperative complications.

Answer: The primary goal of our study was to investigate feasibility, pain control and patients satisfaction of subpleural continuous analgesia. Therefore, we decided to perform an observational pilot study on a small group of patients. The historical TEA group was used only to benchmark the subpleural analgesia results, we were not aiming to prove non-inferiority or even superiority between analgesic techniques. As a results of variation in daily practice and inclusion of consecutive VATS pulmonary resection patients in different time frames, the groups indeed were not perfectly comparable, but as mentioned above we were not aiming for a direct comparison between groups. We specified this in the ‘Study design and population’ paragraph. (page 5)

Reviewer #2: The SCA group showed an increased use of opioids in the firsts two postop days. The authors state that this increasing dosage was uneventful however in my opinion the small sample of patients is unable to reach any significance.

Answer: We agree with the reviewer that the small sample size might have resulted in insufficient power to find significant differences. We extended the small sample size as limitation, with respect to the comparison with the TEA group, in the discussion section. (page 16)

Reviewer #2: It is unclear what are the benefits of this approach compared to others, in particular in VATS approach the TEA is now underused in favor of other approaches (paravertebral catheter, intercostal nerves blocks...), probably the control group should be another than TEA.

Answer: We used TEA as ‘control’ group since this is currently the gold standard for postoperative pain management after VATS in the Netherlands. We agree with the reviewer that regional analgesic techniques may be favourable, however no clear evidence has been published so far whether it is favourable, or which regional technique must be preferred. Therefore, we started with this pilot study in our hospital to evaluate feasibility, effectiveness and patient satisfaction of this regional technique.

The main benefits of SCA compared to TEA and regional local analgesic techniques (paravertebral block, intercostal block, erector spinae block) were fast placement under direct thoracoscopic vision and no need of additional equipment or specialized staff (beside the catheter and the dilatator). In addition, patients benefit from the placement of the analgesic catheter under general anaesthesia compared to possible stressful awake placement of a thoracic epidural catheter or awake percutaneous placement regional analgesic techniques. Lastly, SCA provides continued intercostal blockage instead of single shot pain control. We added these advantages to the discussion paragraph (page 16).
After addressing the abovementioned notes and questions from the reviewers we hope you will accept the manuscript in its current form for publication.

With kind regards,

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