Reviewer's report

Title: Postoperative pain relief using intermittent intrapleural analgesia following thoracoscopic anterior correction for progressive adolescent idiopathic scoliosis

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Reviewer: Marinus de Kleuver

Reviewer's report:

This is an interesting and well written paper on post-op pain management after endoscopic anterior thoracic scoliosis correction.

The authors have tried to meticulously identify the efficacy of an intra-thoracic intra-pleural anaesthesia using an in dwelling catheter placed next to the instrumentation, through which bolus anaesthesia is given.

With some additional information it is suitable for publication.

Major compulsory Revisions:
1. The authors describe “only” 32 of 80 of 205 patients. The reason for selection was the lack of complete data in the other 48 patients. Some more info on these should be provided. Even though we do not have all their VAS scores, it would be intersting to know if these 48 were similar or different to the 32 who are described. E.g. in a worst case scenario all 48 could have had complete failure of their intrapleural anaesthesia, and had break through pain. If that was the case, the conclusions of the paper would be different. So please provide some metrics on these 48, eg demographics, absolute pain management failure rate with intra-pleural anaesthesia, even if it is not available at the detailed level of the cohort of 32.

2. Please comment on the length of time the chest tube was in place. In my experience many patients have pain from the tube, possibly because it irritates the pleura. Once the drain is removed, the pain often diminishes. Please could you include this in your analysis, i.e. did drain removal influence VAS scores?

3. Was the rate of chest drainage related to the effect. In other words, despite clamping the drain, of course the bupivacaine will be diluted by pleural effusion. If total chest drain output is high, one might expect more dilution and less effect of the bupivacaine.

Minor essential revisions:
4. Technique: was the parietal pleura closed over the catheter?

5. Why do the authors give a bolus bupivacaine and not continuous pump?

6. Can the authors comment on the possible effect of intra-pleural anesthesia on the chest wall / rib cage pain due to the incisions/portals vs the visceral/parietal
local spine pain.

7. It appears the PCA use declined after removing the catheter. This might imply that the catheter was a pain trigger! Please comment.

8. Did any of the patients have intercostal blocks?

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests

M. de Kleuver