Author’s response to reviews

Title: Intraoperative ventilation strategies for obese patients undergoing bariatric surgery: systematic review and meta-analysis

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Author’s response to reviews:

We are very grateful for the suggestions and corrections made by the reviewers, below our considerations.

Sjaak Pouwels (Reviewer 1)

- Please write abbreviations in full, when they appear for the first time in the text. For example the abstract. Is much easier to understand.

Answer - we did the corrections. however in the abstract the number of words is limited

At the end of the introduction you state that your review helps in the clinical decision making process regarding the choice of ventilation strategy by surgeons and anesthesiologists. Since when do surgeons need to make a decision about that?

Answer - This review helps in the decision making by anesthesiologists about how best to ventilate patients during surgery.

Babatunde O. Ogunnaike (Reviewer 2)

No evidence of any difference between VCV and PCV modes. High vs. low tidal volume ventilation is an appropriate discussion parameter in this context.

Answer - No studies were found with these interventions that met the quality criteria

Appropriate to discuss ventilation that could be beneficial to during laparoscopy e.g. Pressure-controlled ventilation with volume guarantee (PCV-VG) could be included in this review.

Answer - No studies were found with these interventions that met the quality criteria

Laparoscopic vs. open bariatric surgery - what differences, if any, in reviewed manuscripts?
Answer - This systematic review aimed to evaluate the different ventilatory strategies for obese patients. We did not design this review to evaluate surgical techniques.

Reviewer 2 (Reviewer 3)

The study needs to be refreshed: the bibliography sounds quite old in general and the resultant interpretation might thus be misleading

Answer - It was partially done because the search strategy should not be limited by time, so we included studies from the beginning of each database.

The abstract does not completely represent the manuscript; background and foreground need to be updated; study limitations and potentials need to be implemented.

Answer - At the end of the discussion we show the limitations and practical implications

Sahar M Siddik-Sayyid, MD (Reviewer 4)

For the search strategy, what terms have been used (Obese, obesity, bariatric, and others)?

Answer - We conducted a broad and accurate search strategy to ensure that all studies were identified, so we used the different terms like obese, obesity, bariatric, ventilation strategies.

For better clarification, provide characteristics of studies testing RM preferably in a table (comparisons and airway pressure, frequency, timing of the RM, details of RM, timepoint of measurement of endpoint).

Answer - Different interventions were used without a standard, as shown in the topic limitations

What was the complication rate of barotrauma using different interventions?

Answer - No respiratory complications or major adverse events were reported in the studies included in this review.

Did the beneficial effect extend in the postoperative period? And what was the mortality rate, pneumonia, delayed extubation, reintubation rate, need for ICU admission, and other secondary outcome rates?

Answer - This systematic review was designed to assess the physiological effects of different ventilation strategies during the intraoperative period, no measurements were taken outside the PACU. No deaths were reported in the included studies. No respiratory complications or major adverse events such as delayed extubation, reintubation or ICU admissions were reported in the studies included in this review.

In the Discussion section, authors should provide comments on their finding rather than stating a summary of results. They should explain how combination of RM with PEEP might help. In addition, they should add what research is needed in the future concerning the most efficacious intraoperative ventilation strategy in this specific patient population.
The main finding of the present study is the evidence that obese patients receiving mechanical ventilation benefit from RM, especially when combined with PEEP, as evidenced by improvements in oxygenation and respiratory compliance. While it was observed in this systematic review that the isolated use of PEEP was more effective when higher values were used, however the best result was the combination of the RM with higher levels of PEEP.

The Forest plot figures need to be clarified.

Answer - we made the corrections.

Avoid abbreviation in the Abstract section.

Answer - we made the corrections.

Use consistently either "ARM" or "RM" across the manuscript. Insert number to pages. Correct SDRA to read ARDS.

Answer - we made the corrections.