Title: Perioperative hypoxemia is common with horizontal positioning during general anesthesia and is associated with major adverse outcomes: a retrospective study of consecutive patients

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Reviewer: Goran Hedenstierna

Reviewer’s report:

This study aims at determining the rate of perioperative pulmonary aspiration (POPA). A good background description is given in the introductory part of the manuscript showing multifactorial causes. However, from this broad description of causes of POPA there is a big jump to link it to perioperative hypoxemia (POH) together with postoperative pulmonary infiltrate on chest x-ray. The authors hypothesize that POH and POPA have clinically substantial occurrence rate and that they also would signal increased adverse clinical outcomes. The inclusion and inclusion criteria are well defined as well as of different disturbances such as gastric and intestinal dysmotility, abdominal hypertension and additional factors.

The definition of intra- and postoperative hypoxemia seem to be dependent on two different investigators and POH was considered to be present if one investigator had diagnosed hypoxemia intra-operatively and/or another investigator made the same diagnosis post-operatively. The text is rather lengthy and still a bit demanding to read. Moreover, it seems as if one of the authors who reviewed intra-operative hypoxemia was also analyzing pulmonary infiltrates during the postoperative period. I may be wrong in this but to avoid any bias, the radiologist, blinded to blood gases, could well have made the chest x-ray analysis.

An interesting finding, perhaps not unexpected, was that POH either intra- or postoperatively was seen in almost 1/3 of the 500 patients and the discharge from hospital was twice as long in these patients as in those without any hypoxemia. Another interesting, and again not unexpected, was that the supine position was the one with the largest frequency of POH. Patients with POPA had a four times longer hospital stay than the patients without POPA.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:
I declare that I have no competing interests