

Peer Review File

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Reviewer A

Comment 1: First of all, the use of the expression "regurgitation" to express "no aspiration" is confusing. I believe the authors should change this to "regurgitation without aspiration" throughout the article.

Reply 1: [We are grateful for this suggestion.](#)

Changes in the text: [The concept "regurgitation" has been changed to "regurgitation without aspiration" where applicable.](#)

Comment 2: A few sentences, like the one beginning with "With" on page 3, line 22, and "It is" on page 13, line 18, are very unclear. I believe the article should go through a language editing service.

Reply 2: [Sorry for the language problems, we have improved the language using a language editing service.](#)

Changes in the text: [The changes in language are visible via "track changes".](#)

Comment 3: The strategy where journals are searched after specific words seems to have a high level of specificity, but, at least in the systems I am familiar with, may have a low level of sensitivity. I think some explanation on how accurate this way of measurements are believed to be in the described hospital system could be of value, I also think that this should be mentioned in the limitations chapter.

Reply 3: [The accuracy of our methods has been discussed in the limitations chapter.](#)

Changes in the text: [Page 19 line 8-13.](#)

Comment 4: The article states that secretions were not found in the lower respiratory tract, but not whether all patients were confirmed examined with suctioning or bronchoscopy.

Reply 4: [Thank you for this point. Although suctioning after regurgitation is prescribed, patients who did not receive any examination may exist. We revised the diagnostic criteria based on the opinions of two reviewers.](#)

Changes in the text: [Page 7 line 7-9.](#)

Comment 5: The definition of the group "Regurgitation" (that is without aspiration) should be in a sole paragraph, like the two other definitions.

Reply 5: The definition of "regurgitation without aspiration" has been shown in a sole paragraph as suggested.

Changes in the text: Page 7 line 17-19.

Comment 6: Is it correct that only 6 out of 203678 journals had missing data? If so, I'm impressed, and I believe the authors should elaborate a little on this.

Reply 6: We apologize for the inappropriate expression and have made a correction. We reported an exclusion of "invalid records" in the original manuscript but without any explanation. As described in the revision, the anesthesia records that were in absence of unrecoverable information, including patient ID, American Society of Anesthesiologist (ASA) grade or the record of intraoperative events, were classified into "invalid records" and excluded (8424 cases). Patient information, such as age, department and diagnosis in anesthesia records, is automatically obtained from the Hospital Information System when patient ID is entered. Therefore, after excluding invalid records, the missing of patient information is rare (only 6 in our data) and may be due to the system error. We have added the exclusion criteria and removed the description on the 6 anesthesia records to avoid misunderstanding.

Changes in the text: From page 5 line 19 to page 6 line 1; page 9 line 3-4.

Reviewer B

Comment 1: The authors have defined suspected PA as regurgitation without bronchoscopic findings but with intraoperative symptoms or new infiltrates on postop chest x-ray. This definition may be reasonable but it is different from most of the studies cited for comparison of incidences (e g Warner et al and Beck et al), in which a positive CXR without other causes than PA signifies confirmed PA. My suggestion is to include all these cases in the "definite" (confirmed is a more appropriate term) PA group. Alternatively, they would have to make this difference in definitions very clear in both the methods and the discussion sections.

Reply 1: We have included the patients who had a positive chest x-ray without other causes in "definite aspiration".

Changes in the text: Page 7 line 7-9.

Comment 2: I agree with the authors that the incidence of regurgitation without PA is

an important event to record, and may be a surrogate parameter for the risk of aspiration. However, with a retrospective design, most minor regurgitation events are likely to have gone without mention in the medical record system, if recording of regurgitation (or absence of r) is not mandatory in the anaesthesia records. This problem must therefore be mentioned when comparing data to i.e. Beck et al 2020, as well as in the limitations section. In addition, if the authors are planning a follow-up study, I would suggest introducing a i.e. a check box for regurgitation and another one for PA in their anaesthesia record system.

Reply 2: The problem of omitted reporting has been discussed when comparing data to that of Beck et al. as well as in the limitations section. Thank you for your constructive suggestions on the upgrading of the anesthesia record system.

Changes in the text: Page 14 line 19-20; page 19 line 8-13.

Comment 3: The authors have excluded obstetric cases because they are special. I don't see the point. With this kind of logic, they should exclude ASA >3 and emergency cases too, as they are known risk factors. My view is that this type of large audit should strive to include all available patients as has been the custom in most previous studies.

Reply 3: We agree with your point that all available patients should be included in this type of large audit. We decided to include the obstetric procedures and reviewed the data. But unexpectedly, intraoperative vomiting was seldom recorded in obstetric patients under intraspinal anesthesia. As all obstetric procedures are performed in a branch hospital (maternal and child health hospital), we consulted the colleagues in the branch and found large differences in terms of regulations and quality control criteria between the headquarters and the branch (using the same electronic system). In the headquarters, most procedures are performed under general anesthesia, where regurgitation and aspiration are important concerns and are required to be routinely documented. The regulation is also applicable for procedures under regional anesthesia or MAC. However, in the branch hospital, active vomiting during intraspinal anesthesia is considered safe and is not recorded as a routine. This difference does result in an evident underestimation of PA and regurgitation (without aspiration) incidence in the branch. We apologize that we did not have a detailed knowledge of the differences in regulations and quality control criteria in our early work. After extensive discussion, we have excluded the procedures performed in the branch in order to provide as reliable data as possible, although this will lead to a decrease in the sample size. Thanks for your suggestion. We will pay more attention to the inclusion and exclusion criteria in our future studies.

Changes in the text: Page 6 line 1-3.

Comment 4: Finally, although the manuscript text is well presented and perfectly legible, it has a multitude of grammatical errors and thus needs a language review. In the attached file I have marked some but not all of these errors.

Reply 4: [Sorry for the language problems, we have improved the language using a language editing service.](#)

Changes in the text: [The changes in language are visible via "track changes".](#)

Comment 5: In the abstract, I suggest removing the phrase "while 91% had regurgitation" since this is redundant and potentially misleading information. Similarly, I suggest omitting the corresponding phrase in the results as well as "while 16 other 29.6% had regurgitation" in the preceding sentence.

Reply 5: [We have deleted the two redundant sentences as suggested.](#)

Changes in the text: [Page 2 line 20-21; page 9 line 17-18.](#)

Comment 6: P4 L17 what is a preliminary audit? I suggest deleting preliminary

Reply 6: [Deleted as suggested.](#)

Changes in the text: [Page 2 line 7.](#)

Comment 7: P4 L20 The outcome is hardly the "recent" incidence? Please delete

Reply 7: [Deleted as suggested.](#)

Changes in the text: [Page 5 line 7.](#)

Comment 8: P12 L22 What do you mean by "tremendous heavy workload"?

Reply 8: [The sentence has been modified.](#)

Changes in the text: [Page 14 line 12-13.](#)

Comment 9: Suppl Table 1 mask ventilation during apnoea is hardly part of a classic RSI protocol

Reply 9: [We have revised the sentence to "Manual ventilation is not regularly applied".](#)

Changes in the text: [Supplementary Table 1](#)

Comment 10: Suppl table 3 What were the reasons for excluding

"Records of suctioning from gastric tube 42

Postoperative nausea and vomiting 14

Hemorrhage after tongue/tonsil surgery 2

Operation cancelled before anesthesia due to cardiac arrest"

Reply 10: We have described the exclusion criteria and modified the table in the revision. The two patients with "hemorrhage after tongue/tonsil surgery" had aspiration in the ward and the patient with "operation cancelled before anesthesia due to cardiac arrest" had regurgitation on the way to operating room. The three patients above have been classified into "Regurgitation/aspiration occurred before admitting". The description "Records of suctioning from gastric tube " is unclear and has been revised to "Gastric tube suctioning for surgical demands".

Changes in the text: Page 6 line 12-13; Supplementary Table 3.