Jundishapur Journal of Microbiology
Volume 17 · Issue 9 · e154562

OPEN PEER REVIEW

Prevalence and Risk Factors of Pneumomediastinum and Subcutaneous Emphysema in COVID-19 Patients: A Retrospective Cohort Study

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SUBMITTED	REVISED	ACCEPTED	DOI
13 Sep 2024	19 Oct 2024	27 Oct 2024	10.5812/jjm-154562

About this report

This open peer review (OPR) report shows the public comments made on this article during peer review, by the reviewers, the associate editor and the editor-in-chief, for every revision round, together with the authors' replies. Comments appear only with the consent of the people who wrote them. Reviewers who chose to sign their report are named; the others are shown as "Referee". Comments are edited for language only, and confidential remarks to the editors are not included.

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1 Original submission

2 comments · 29 Sep 2024 – 5 Oct 2024

Referee 1 Reviewer

MAJOR REVISION 29 Sep 2024

The paper "Prevalence and Risk Factors of Pneumomediastinum and Subcutaneous Emphysema in COVID-19 Patients" is overall well done and addresses an important topic related to the management of COVID-19 patients. However, to improve its quality and scientific impact, the following points should be considered:

Abstract

Please highlight the clinical relevance of the time intervals mentioned for PM and SCE occurrence after hospitalization. Also, clearly state the characteristics of the control group (age, sex, and severity of disease) and explain why comparing these patients with the PM and SCE groups is crucial for understanding the study's outcomes. This will help provide a more complete picture of the research.

Introduction

Clearly state the specific research gap your study addresses. Move beyond the general statement that PM treatment in COVID-19 is "debated" by specifying the key unresolved clinical questions or controversies to justify your study.

Methods

Provide more detailed information on exclusion criteria, particularly regarding the absence of PCR or CT scans, and discuss how this could lead to selection bias. Additionally, match patients not only by age and sex but also by COVID-19 severity to enhance comparability. Clearly explain how radiological assessments (TSS) were standardized to minimize observer variability.

Results

Investigate the high mortality rates of 43.8% in the PM group and 47.6% in the SCE group. Provide a more detailed analysis of why comorbidities like diabetes and asthma, known risk factors for severe COVID-19, did not significantly impact PM and SCE development. Expand Table 3 to include details on the duration and intensity of oxygen therapy.

Discussion

Expand on why PM and SCE were more prevalent in your cohort compared to other studies. Offer data-supported explanations related to lung mechanics in COVID-19 patients. Address discrepancies with previous studies, focusing on population differences, ventilation practices, or diagnostic criteria.

Conclusion

Emphasize the rare but serious nature of PM and SCE in COVID-19, and recommend more cautious oxygenation and ventilation strategies. Strengthen your suggestions for alternative oxygenation methods like high-flow nasal cannula, grounded in your findings.

Associate Editor

MAJOR REVISION 5 Oct 2024

Dear Dr Zarei

The manuscript titled "Prevalence and risk factors of pneumomyastinoma and subcutaneous emphysema in patients with covid-19" was reviewed. Based on reviewer comments, it needs major revision. The authors should review the manuscript carefully and clarify all issues raised by the reviewers. The revised version with these improvements will reach a higher standard and will be acceptable for publication in JJM.

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Revision 1

AUTHORS' RESPONSE TO REVIEWERS

Authors' reply to reviewers

The next pages contain the authors' point-by-point reply to the comments of this revision round, as submitted with the revised manuscript. It is published as the authors wrote it.

Title and abstract

- The phrase “a retrospective cohort study” is added to the title and methods.
- The time intervals mentioned for PM and SCE after hospitalization are removed due to a lack of important clinical relevance.
- The characteristics of the control groups are mentioned in more detail.

Introduction

- The debated treatment strategies are described in more detail.
- The main goal of the study is mentioned in the last paragraph.

Methods

- Patient selection and inclusion/exclusion criteria are provided with more detail, and the possible selection bias is discussed.
- Patients in the control group are also matched by disease severity.
- The standardization of TSS assessment is explained.
- The logistic regression model is described in more detail.

Results

- The non-significant differences in the relationship between comorbidities and the development of PM/SCE are discussed.
- Possible confounding variables are mentioned in the text.
- The expansion of Table 3 is not feasible.

Discussion

- The findings of our study are compared with similar and different findings from other studies with more explanation and in more detail.
- We added the “recommendations for practice” as a need for further studies to determine the best strategy for oxygen therapy in these patients, as we can not explain the best strategy due to our study type.

Conclusion

- Recommendations for more cautious and alternative oxygenation methods are added.

Tables

- The non-significant differences presented in tables are explained in the text.
- We believe that no information on tables is unnecessary, none can be removed and all data is presented clearly in the tables.

Grammar and Structure

- Some changes are made within the text to improve the clarity.

2 Revision 1

0 comments

No public comments in this round.