

# Spontaneous pneumomediastinum COVID-19: Impact of mechanical ventilation

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## CASE REPORT

Coronavirus disease 2019 (COVID-19) has spread rapidly around the world and many studies have shown these typical and rare atypical findings, such as transient pneumothorax, spontaneous pneumomediastinum (SP), as well as emphysema subcutaneous during hospitalization.

This is the case in a 56-year-old woman with COVID-19, who presented during hospitalization, a spontaneous pneumomediastinum of low abundance. As her clinic worsened with dyspnea and impaired consciousness, she was put on mechanical ventilation in intensive care. Faced with the persistent symptomatology, a control thoracic computed tomography (CT) at 15 days of assisted ventilation found on the axial slice (Figure 1) in parenchymal window, bilateral diffuse depoli glass areas with septal thickening, pneumomediastinum, and significant subcutaneous emphysema. Unfortunately our patient died a few days later.

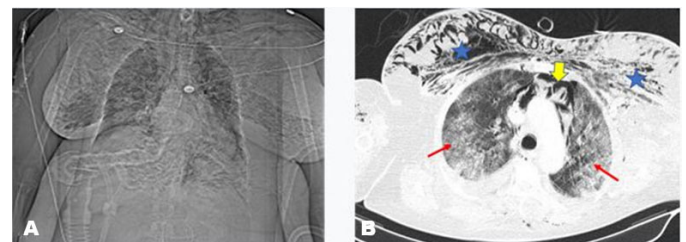


Figure 1: (A) Topogram, (B) Thoracic CT, axial slice by parenchymal window, showing areas of bilateral diffuse glass opacities with septal thickening (red arrow), pneumomediastinum (yellow arrowhead), and a large subcutaneous emphysema (blue star).

## DISCUSSION

Although the exact mechanism is unknown, the literature reports that an increase in alveolar pressure and the weakening of their walls related to the pronounced cough background in COVID-19 pneumonia make them more susceptible to rupture. Barotrauma has also been reported, linked to mechanical ventilation which in some cases could increase the pneumomediastinum and pre-existing emphysema [1–4].

## CONCLUSION

According to the literature and the analysis of cases, pneumothorax and pneumomediastinum have a high mortality of 60%. Thus, it is necessary to pay attention because their identification and early management can reduce this rate.

**Keywords:** Computed tomography, COVID-19, Diagnosis, Pneumomediastinum

### How to cite this article

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Rita Oze Koudouhonon – Conception of the work, Design of the work, Acquisition of data, Analysis of data, Interpretation of data, Drafting the work, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Suzanne Rita Aubin Igombe – Conception of the work, Design of the work, Acquisition of data, Analysis of data, Interpretation of data, Drafting the work, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

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## Consent Statement

Written informed consent was obtained from the patient for publication of this article.

## Conflict of Interest

Authors declare no conflict of interest.

## Data Availability

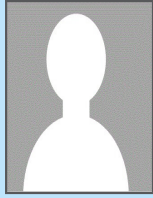
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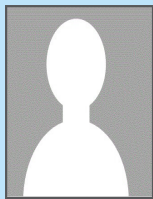
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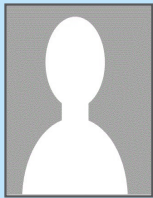
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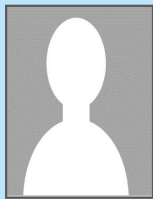
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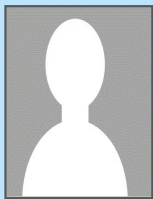
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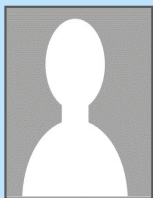
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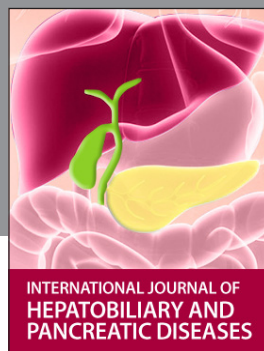
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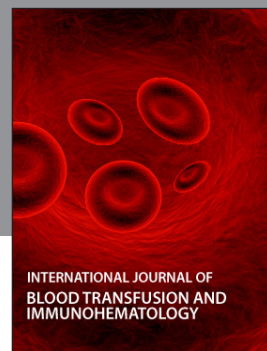
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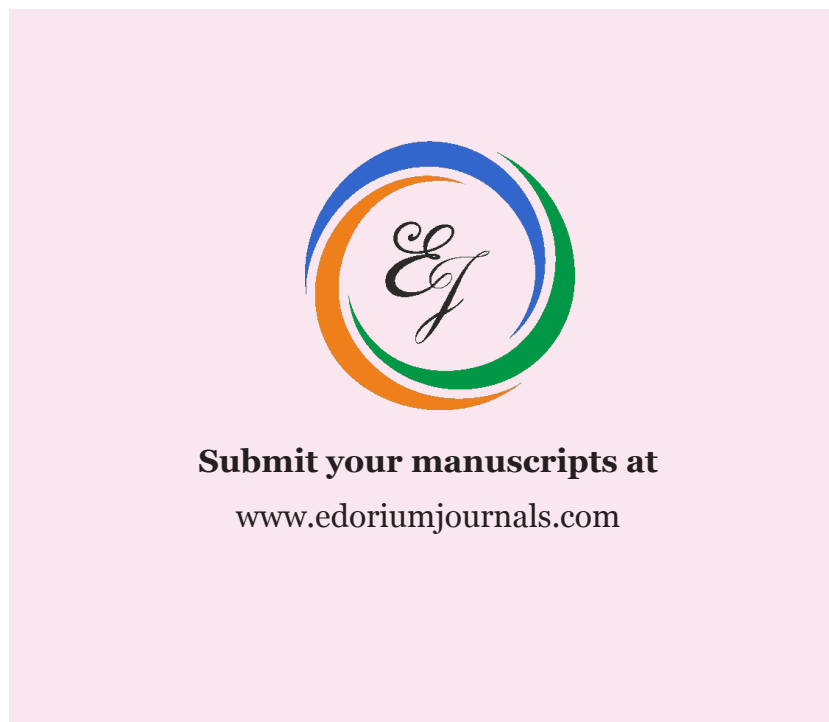
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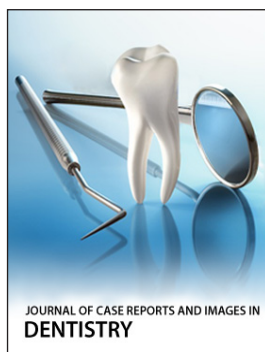
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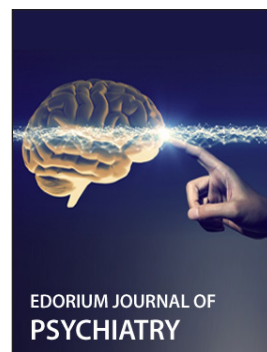
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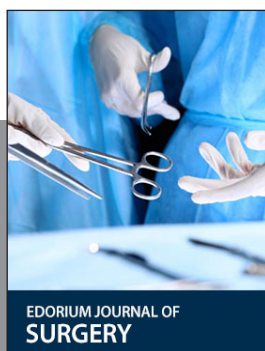
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