

AB087. SOH21AS044. Use of point of care lung ultrasonography in the critical care setting as an aid to identifying the correct diagnosis in an acutely desaturating patient with coronavirus disease 2019 (COVID-19) related acute respiratory distress syndrome

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Background: Acute desaturation is a common occurrence in ventilated ICU patients of which there are many possible causes. Multiple studies suggest that point-of-care ultrasonography has a role in helping to differentiate between several potential diagnoses with great sensitivity/specificity. Here, we present the case of an acute desaturation in a critically ill patient in whom the use of bedside ultrasonography aided in the timely diagnosis and treatment of the cause.

Methods: A 64-year-old male was intubated and ventilated for coronavirus disease 2019 (COVID-19) associated acute respiratory distress syndrome (ARDS). He had a background history of chronic obstructive pulmonary disease (COPD), and ischaemic heart disease (IHD). His oxygen saturations dropped rapidly to 80% on day 9 of ICU admission. Chest auscultation revealed absent breath sounds over the left upper chest which raised suspicions for pneumothorax, of which a small stable left apical pneumothorax was documented on a recent CT thorax. Point of care ultrasonography was performed prior to attempting chest drain insertion which demonstrated sliding pleurae on the left side (GE Healthcare Model: Vscan Extend. Display: 5 inches, 720x1,280 pixels resolution. Sector probe – broad-bandwidth: 1.7–3.8 MHz, 24 cm penetration. Linear Probe – Broad-bandwidth: 3.3–8 MHz, 8 cm penetration). A portable chest X-ray was obtained which demonstrated left upper lobe collapse secondary to mucus plugging.

Results: The mucus plug was successfully suctioned from the patient's airway using bedside bronchoscopy subsequently improving the patient's oxygen saturation. A follow-up chest X-ray and CT thorax demonstrated interval resolution of the left upper lobe collapse.

Conclusions: While expansion of his existing pneumothorax was first on the list of differential diagnoses, the use of ultrasonography early in the patient's assessment ensured it was ruled out prior to attempting chest drain insertion, thus prompting the acquisition of the chest X-ray which subsequently demonstrated the left upper lobe collapse as the correct diagnosis.

Keywords: Adult critical care; acute desaturation; acute respiratory distress syndrome (ARDS); coronavirus disease 2019 (COVID-19); point-of-care ultrasound

Acknowledgments

Funding: None.

Footnote

Conflicts of Interest: This study has been published in *BMJ Case Reports*. The authors have no other conflicts of interest to declare.

Ethical Statement: The authors are 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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doi: 10.21037/map-21-ab087

Cite this abstract as: Lock C, Nix CM. Use of point of care lung ultrasonography in the critical care setting as an aid to identifying the correct diagnosis in an acutely desaturating patient with coronavirus disease 2019 (COVID-19) related acute respiratory distress syndrome. *Mesentery Peritoneum* 2021;5:AB087.