

8.05 Are invasively ventilated COVID-19 ICU patients more likely to develop a pneumothorax or pneumomediastinum? A retrospective cohort study.

Amber J Downes¹, Sinead M Campbell¹, Jiamin Ke¹, Donal Ryan¹, David G Healy¹

1.St Vincent's University Hospitals

Severe respiratory syndrome coronavirus 2, and the resultant coronavirus disease 2019, increased the number of patients requiring invasive ventilation in intensive care units (ICU) internationally. In our institution, the requirement for chest drains in ventilated ICU patients appeared to increase during the COVID-19 pandemic. Our study aimed to identify if patients requiring invasive ventilation in ICU were more likely to sustain a pneumothorax and/or pneumomediastinum if they were positive for COVID-19. A retrospective cohort study was completed, reviewing all invasively ventilated patients in ICU between 1st March 2020 and 28th February 2021. Four patient groups were created based on two criteria: presence or absence of COVID-19 and pneumothorax/pneumomediastinum. 344 patients met inclusion criteria for the study. 5 patients were COVID-19 positive with an identified pneumothorax/pneumomediastinum. 12 patients were COVID-19 negative with an identified pneumothorax/pneumomediastinum. The risk was 11.4% in patients in the COVID-19 positive group and 5.9% in patients in the COVID-19 negative group, with a significance of 0.035. COVID-19 positive patients have a risk 2.84 times higher of developing a pneumothorax/pneumomediastinum. In our patient cohort, being COVID-19 positive presents a significant increased risk of developing a pneumothorax and/or pneumomediastinum while invasively ventilated, compared to their COVID-19 negative counterparts.

Conflict of Interest: None to declare