

EP.WE.577

Chest air-leak complications in critically ill COVID-19 Patients: a retrospective single-centre cohort study

Michelle Fong^{1,2}, Sophie Shepherd^{1,3}, Priti Gandre¹, Jasdeep Gahir¹

¹North Middlesex University Hospital, ²University College London Hospital,

³Homerton University Hospital

Introduction: COVID-19 has caused a global pandemic with a proportion of patients admitted to intensive care with viral pneumonia and respiratory failure. Spontaneous air leaks have been reported in patients with COVID-19. We report on a phenomenon of significant chest air-leak manifestations on a cohort of critically unwell intubated COVID-19 patients in our single centre.

Methods: All patients admitted to our single-centre intensive care unit during the initial outbreak of COVID-19 in the UK were identified. Individual electronic notes and imaging were screened to look for complications of: surgical emphysema, pneumomediastinum and/or pneumothorax.

Results: 158 patients were admitted to our intensive care and eleven (7.0%) of patients were found to have suffered air leak complications unrelated to line insertion. Five suffered surgical emphysema only, one surgical emphysema with pneumomediastinum and two with the full triad of surgical emphysema, pneumomediastinum & pneumothorax. Two patients had unilateral pneumothoraces and one patient experienced a tension pneumothorax. Four patients were managed conservatively and seven had chest drains inserted. Overall outcomes were: one patient was discharged home, one discharged to ward, two transferred to an outside hospital and seven died.

Conclusion: Air-leak complications in COVID-19 patients, both spontaneous and ventilation associated are an under-recognised phenomenon. In the critically ill population literature suggests there is a > 5% incidence and risk reduction strategies should be considered. We advocate for early diagnosis and decompressive therapy with chest drains to avoid tamponade in intubated patients. Virus spread from air-leak should also be considered and health-care professionals adequately protected.