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Mechanical Ventilation Associated Pneumomediastinum – A Rising Incidence of Cases in an Emergency Hospital During the COVID-19 Pandemics

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Abstract
Introduction: Mechanical ventilation is a last resort solution for patients presenting with acute respiratory distress syndrome produced by SARS-CoV-2. Spontaneous pneumomediastinum is a rare pathology associated with invasive mechanical ventilation. The objective of our research was to highlight the increased incidence of spontaneous pneumomediastinum during the COVID-19 pandemics in our hospital.
Material and method: A retrospective review of the cases in our hospital requiring surgical evaluation was performed. Electronic health records from our institution were searched for nontraumatic pneumomediastinum from October to November 2021. All patients that were identified with pneumomediastinum were included in the review.
Results: We identified 12 mechanical ventilated patients that presented with free air in the mediastinum on a computed tomography during the study period. All of the patients had SARS-CoV-2 bronchopneumonia with extensive pulmonary involvement. The mortality rate among these patients was 58.33%.
Conclusions: The main take-home message of our study is that the incidence of mechanically ventilation-associated pneumomediastinum was exponentially higher during the fourth wave of COVID-19. There is a need for multicenter data in this pathology for a better approach and to define surgical management options for these patients.
Key words: pneumomediastinum, COVID-19, mechanical ventilation