



Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.

## Additional Abstracts

**SESSION TITLE:** Cardiothoracic Surgery Posters

**SESSION TYPE:** Original Investigation Posters

**PRESENTED ON:** October 18-21, 2020

### CLINICAL CHARACTERISTICS AND OUTCOME OF PNEUMOTHORAX IN PATIENTS WITH COVID-19 PNEUMONIA

AARON KANGAS-DICK VICTOR GAZIVODA MUDATHIR IBRAHIM AND ORY WIESEL

**PURPOSE:** Pneumothorax (PTX) is characterized by the presence of air within the pleural space. The association between PTX and COVID-19 has not been well established in the current literature. We sought to better characterize the presentation and clinical outcomes of PTX in patients with confirmed SARS-COV-2 pneumonia at our institution to better define the incidence, cause, outcomes and available treatment for this condition.

**METHODS:** All patients with a proven diagnosis of COVID19 and concomitant PTX between March 17, 2020 and May 5, 2020 were identified through hospital records. Retrospective analysis of radiology records and chart review was conducted. Clinical characteristics and outcomes were collected and descriptive statistics were analyzed.

**RESULTS:** 63 patients met inclusion criteria. Median age was 65.5 years (IQR 54-74.75). The most prevalent medical comorbidities were hypertension (53%, n=33), diabetes mellitus (47.6%, n=30), and hyperlipidemia (31.7%, n=20). 55 patients (87.3%) required mechanical ventilation. Of these PTX was diagnosed after intubation in 54 (98.2%). This reflected 20.83% of the total 264 intubated patients at our institution during the study period. Median positive end -expiratory pressure on the day of PTX diagnosis was 10 (IQR10-15).An invasive procedure with potential to cause iatrogenic PTX had been performed in only 15.6% (n=10) of the 63 patients on the day of or the day prior to the PTX. Chest tubes were placed in 57 (90.4%) patients. 51 patients were admitted to the ICU (81.0%) patients and of those 40 (78.4%) died. Median ICU and Hospital Lengths of stay were 16.5 (5-24.5) and 17 (5-26) days, respectively. At the end of data collection (6/1/2020), 8 (12.6%) patients remained admitted to the hospital, 8 patients (12.6%) were discharged, and 47 patients (74.6%) had died. Risk factors associated with mortality were Age >65 years (OR 16.0 (1.5-170.22) p=0.022) and concurrent renal failure (OR 11.11 (2.5-49.13) p=0.002).

**CONCLUSIONS:** Compared to historical series in acutely ill patients with ARDS, PTX was found in higher incidence among patients with COVID-19. Older age and concurrent renal failure were found as significant contributors to mortality. Compared to all intubated patients with COVID-19 at our institution, the ICU mortality associated with this condition is elevated (59% vs 78.4%, p=0.0099).

**CLINICAL IMPLICATIONS:** With the looming possibility of a second wave of COVID-19, we feel that this information is vitally important to share with the scientific community as Pneumothorax may be associated with worse clinical outcomes.

**DISCLOSURES:** No relevant relationships by Victor Gazivoda, source=Web Response

No relevant relationships by MUDATHIR IBRAHIM, source=Web Response

No relevant relationships by Aaron Kangas-Dick, source=Web R

**DOI:** <https://doi.org/10.1016/j.chest.2020.09.232>

Copyright © 2020 Published by Elsevier Inc under license from the American College of Chest Physicians.