

Cervico-Thoracic Air Collections in COVID-19 Pneumonia Patients - Our Experience and Brief Review

Claudiu Eduard Nistor¹, Camelia Stanciu Gavan¹, Daniel Pantile¹, Narcis Valentin Tănase², Adrian Ciuche¹

¹Department of Thoracic Surgery, Central Military Emergency University Hospital "Dr. Carol Davila" "Carol Davila" University of Medicine and Pharmacy Bucharest, Romania

²Department of Intensive Care, Central Military Emergency University Hospital "Dr. Carol Davila" "Carol Davila" University of Medicine and Pharmacy Bucharest, Romania

Abstract

Introduction: COVID-19 (Coronavirus-19 disease), a new clinical entity caused by SARS-CoV-2 infection, could explain the physiopathology of cervicothoracic air collections (pneumothorax, pneumomediastinum, and subcutaneous emphysema).

Material and Methods: We conducted an 8-months retrospective analysis of a single-center SARS-CoV-2 cases associating pneumothorax, pneumomediastinum, and subcutaneous emphysema, either alone or combined.

Results: All non-intubated patients with the complications cited above had a favorable outcome after pleural drainage, percutaneous drainage, and/or conservative treatment, while the intubated patients, with multiple comorbidities, have had an unfavorable outcome, regardless the chosen treatment. Pleural drainage was used for pneumothorax cases; pneumomediastinum with subcutaneous emphysema required insertion of subcutaneous needles or angio-catheters with manual decompressive massage. Conservative methods of treatment were used for patients with pneumomediastinum and medium or severe respiratory dysfunction.

Conclusions: Etiopathogenic classification of pneumothorax should include SARS-CoV-2 infection as a possible cause of secondary spontaneous pneumothorax due to COVID-19 pneumonia. Survival rate after the occurrence of these complications was small (18,75%), 4 of the patients were cured, 2 had a favorable outcome and 26 have died. Pleural drainage which is mandatory to do for patients with pneumothorax complication in COVID -19 pneumonia, doesn't change the prognosis for those with severe affecting lungs, because the prolonged ventilation and the other comorbidities have led to death in most of these cases.

Key words: COVID-19, pneumothorax, pneumomediastinum, subcutaneous emphysema