

Abstract:

Background: With the coronavirus pandemic, the virus has significantly affected vital organ systems such as the cardiovascular system, leading to various disturbances. This study aimed to determine the association between lung parenchymal involvement and pulmonary artery embolism in COVID-19 pneumonia patients.

Aim: This study was conducted with the aim of determining the relationship between lung parenchymal involvement and pulmonary artery embolism in COVID-19 pneumonia patients.

Material and Methods: This descriptive-analytical cross-sectional study was conducted retrospectively based on data from patients hospitalized at Imam Khomeini Hospital in Ardabil. Data including age, gender, D-dimer levels, comorbidities, relevant medication, hospital ward, duration of hospitalization, lung involvement, pulmonary embolism, and hospital outcome were collected from patient records. The occurrence of pulmonary embolism was determined based on pulmonary CT angiography reports, categorizing patients into two groups with and without pulmonary embolism for comparison of the association between pulmonary embolism, lung involvement severity, D-dimer levels, and other variables. Data analysis was performed using SPSS version 25.

Results: Demographic information was recorded. The findings indicated that the involvement of the right lung was less than the left lung. Also, in this research, the findings have shown that age and clinical findings cause differences in the level of involvement of lung parenchyma with pulmonary embolism in patients with COVID-

19, but there is no significant difference based on gender and D-dimer (P-value < 0.05).

Conclusion: The results suggest the impact of COVID-19 on the severity of lung involvement in individuals with pulmonary artery embolism.

Keywords: Pulmonary artery embolism, COVID-19, lung parenchyma, thrombosis