

Pulmonary embolism during the COVID-19 pandemic

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Background:

During the COVID-19 pandemic many countries have imposed lockdown restrictions to movement. Since the 18th of March in Portugal, thousands of people have been confined to their homes. While hospital admissions for COVID-19 patients increased exponentially, admissions for non-COVID-19 patients decreased dramatically. However, it remains unclear whether lockdown-related immobility can contribute to the increased incidence of pulmonary embolism.

Purpose: To compare the incidence of pulmonary embolism (PE) during the lockdown period (April 1 to May 31, 2020) compared to the reference period in 2019.

Methods: Retrospective study of consecutive outpatients who presented to the emergency department and underwent computed tomography pulmonary angiography (CTPA) due to suspicion of PE.

Results: Compared to the same period of 2019, the lockdown period was associated with a significant increase in PE diagnosis (29 versus 18 patients). PE patients during lockdown were older (median age 71 years; interquartile range [IQR][60-85] versus 59 years [44-76]; $p = 0.046$) and have lower prevalence of active cancer (14% versus 33% in the reference period). Women represent 55% ($n = 16$) of patients in lockdown group (versus 50% in 2019 group). Clinical probability (GENEVA score) was similar in both groups (median score 2.72 in lockdown group and 2.50 in reference group, $p = 0.452$). None of the patients with PE was diagnosed with COVID-19.

Conclusion: We have observed a marked increase (62%) in PE diagnosis during lockdown period compared to the reference period, which can be explained by the reduction in physical activity due to teleworking and closure of gyms and sports activities.

These data reinforce the importance of promoting physical activity programs at home. The role of pharmacological or mechanical thromboprophylaxis in this scenario remains unclear.