



COVID-19 infection and its impact on case fatality in patients with pulmonary embolism

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This study demonstrated a considerable impact of COVID-19 on adverse outcomes of patients with pulmonary embolism in 2020, which should guide attention to this special population with regard to antithrombotic prevention and diagnostic strategies <https://bit.ly/3zz3OjZ>

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Abstract

Background Although a high prevalence of pulmonary embolism (PE) has been reported in association with coronavirus disease 2019 (COVID-19) in critically ill patients, nationwide data on the outcome of hospitalised patients with COVID-19 and PE are still limited. Thus, we investigated seasonal trends and predictors of in-hospital death in patients with COVID-19 and PE in Germany.

Methods We used a German nationwide inpatient sample to analyse data on hospitalisations among COVID-19 patients with and without PE during 2020, and to detect changes in PE prevalence and case fatality in comparison with 2019.

Results We analysed 176 137 COVID-19 hospitalisations in 2020; PE was recorded in 1.9% (n=3362) of discharge certificates. Almost one-third of patients with COVID-19 and PE died during the in-hospital course (28.7%) compared with COVID-19 patients without PE (17.7%). Between 2019 and 2020, numbers of PE-related hospitalisations were largely unchanged (98 485 *versus* 97 718), whereas the case fatality rate of PE increased slightly in 2020 (from 12.7% to 13.1%; p<0.001). Differences in case fatality were found between PE patients with and without COVID-19 in 2020 (28.7% *versus* 12.5%; p<0.001), corresponding to a 3.1-fold increased risk of PE-related death (OR 3.16, 95% CI 2.91–3.42; p<0.001) in the presence of COVID-19.

Conclusions In Germany, the prevalence of PE events during hospitalisations was similar in 2019 and 2020. However, the fatality rate among patients with both COVID-19 and PE was substantially higher than that in those with only one of these diseases, suggesting a life-threatening additive prognostic impact of the COVID-19–PE combination.

