

Contemporary in-hospital mortality of pulmonary embolism

Kleissner M.; Vojtickova L.; Kettner J.; Kautzner J.; Sramko M.

Institute for Clinical and Experimental Medicine (IKEM), Department of Cardiology, Prague, Czechia

Funding Acknowledgements: Type of funding sources: None.

Background: Recent data on mortality of hospitalised patients with pulmonary embolism (PE) are scarce.

Purpose: To compare in-hospital mortality between a contemporary and a historical cohort of patients treated for PE.

Methods: We retrospectively analysed clinical and imaging data of 372 consecutive patients who were admitted to our department for PE between February 2010 and November 2020. Patients in whom PE presented as an out-of-hospital cardiac arrest without sustained return of spontaneous circulation (n = 12) were not included. In-hospital mortality was compared between patients admitted before and after January 2016 (n = 178 and n = 194, respectively). The patients were classified as low, intermediate and high clinical risk, according to the 2019 European Society of Cardiology guidelines.

Results: The diagnosis of PE was based on computed tomography angiography (85%), ventilation/perfusion lung scan (7%), echocardiography (7%), and autopsy (1%). The majority of patients presented with intermediate-risk (288 [77%]), followed by low-risk (46 [12%]) and high-risk PE (38 [10%]). The risk profile did not differ between the contemporary vs. historical cohort (78% vs. 77%, 13% vs. 11%, and 9% vs. 12%, respectively, all $p > 0.05$). Eleven patients (3%) died of PE during the index hospitalization: eight with high-risk PE (21%), three (1%) with intermediate-risk and zero (0%) with low-risk PE ($p < 0.0001$). The in-hospital mortality did not differ between the contemporary vs. historical cohort (5 [3%] vs. 6 [3%], $p = 0.76$). In the multivariate regression analysis, the initial manifestation of cardiogenic shock, presence of provoking factors for PE, and a history of stroke were associated with higher in-hospital mortality.

Conclusion: The mortality of hospitalised patients with intermediate and low-risk PE is lower than previously reported and did not change over the last decade. High-risk PE is associated with in-hospital mortality of 21%.

Abstract Figure.

