Streszczenie w języku angielskim

The pathophysiology and clinical presentation of acute coronary syndromes (ACS) and thromboembolic complications in the context of concomitant SARS-CoV-2 infection may differ from the conventional course observed in patients without coexisting infection.

The aim of this dissertation was to evaluate the impact of SARS-CoV-2 infection on hemostatic disturbances and its clinical significance in the course and management of ST-segment elevation myocardial infarction (STEMI) and thromboembolic events, with particular focus on pulmonary embolism.

A total of 29,915 STEMI patients were studied; 3,139 (10.5%) underwent thrombectomy, of whom 311 (10.8%) were COVID-19 positive. The clinical characteristics and treatment of COVID-19 (+) and COVID-19 (–) patients were compared. It was observed that COVID-19 (+) patients more frequently presented in severe clinical condition. Despite more intensive antiplatelet and anticoagulant therapy, percutaneous coronary interventions (PCI) less often achieved optimal TIMI 3 flow. COVID-19 emerged as an independent, strong predictor for qualification for aspiration thrombectomy.

Simultaneously, a cohort of 70 patients with pulmonary embolism and respiratory tract infection was analyzed, divided into COVID-19 (–) (n = 25) and COVID-19 (+) (n = 45) groups. Clinical and imaging characteristics were evaluated, and regression analyses were performed to identify predictors of 30-day and one-year mortality. SARS-CoV-2 infection did not independently affect long-term survival. Short-term survival was comparable between groups, whereas long-term survival was higher in the COVID-19 (+) cohort. The only independent predictor of long-term mortality was underlying malignancy.

A complementary review was conducted to delineate the effects of SARS-CoV-2 on coagulation and fibrinolysis and to present recommendations for the prophylaxis and management of thromboembolic complications.

The findings highlighted the importance of a personalized therapeutic approach tailored to the individual clinical course. Such an approach may contribute to treatment optimization and improve the quality of patient care.