

RATIONALE FOR ANTICOAGULATION USE IN POST-ACUTE COVID-19

T. Pertseva¹, L. Konopkina¹, N. Habshydzė², O. Myronenko¹, Y. Huba¹, M. Krykhtina¹, K. Rybalka¹, L. Botvinikova¹

¹Dnipro State Medical University, Dnipro, Ukraine

²Donetsk National Medical University, Kropyvnytskyi, Ukraine

Abstract. Given that thrombotic inflammation is the core pathogenesis of coronavirus disease (COVID-19), current clinical guidelines recommend anticoagulant therapy for all hospitalized COVID-19 patients. However, indications for continuing anticoagulant therapy after discharge remain uncertain.

The aim of the study was to determine the rationale for anticoagulant therapy in patients who survived severe or critical COVID-19, after hospitalization.

Materials and Methods. The study included 49 individuals (age: 59.0 (47.0; 66.0) years; 26 (53.1 %) males and 23 (46.9 %) females) who had recovered from severe or critical community-acquired pneumonia associated with COVID-19. The evaluation was conducted on day 45.0 (35.0; 65.0) from the onset of the first COVID-19 symptoms. The examination included medical history and symptom assessment, review of medical records, physical examination, pulse oximetry (SpO₂), and laboratory tests (C-reactive protein (CRP), D-dimer, platelet count). Patients were followed up to day 180.0 (162.5; 190.0) from the onset of symptoms. The statistical method used was the Kaplan-Meier survival analysis with the construction of survival curves.

Results. Subgroup 1 consisted of 8 (16.3 %) patients (anticoagulant intake limited to the hospitalization period), and subgroup 2 — of 41 (83.7 %) patients (anticoagulant therapy continued after hospital discharge). The clinical course during the acute and early post-acute periods in subgroup 1 was more favorable compared to subgroup 2, as assessed by SpO₂ levels in the acute and post-acute periods, CRP levels in the acute period, and the severity of dyspnea in the post-acute period ($p < 0.05$). Venous throm-

boembolism in the early post-acute period was diagnosed in 5 (62.5 %) patients from subgroup 1 and in only 2 (5.0 %) patients from subgroup 2. A significant increase in the risk of VTE development was established for subgroup 1 compared to subgroup 2 (HR = 17.4 (95% CI 1.9–62.0), log-rank test $p < 0.001$).

Conclusions. Patients after severe or critical COVID-19 should receive anticoagulants not only in the acute phase but also during the post-acute period of the disease, regardless of clinical and laboratory parameters characterizing the course of the acute and post-acute COVID-19 periods (severity of respiratory failure and laboratory markers).

Key words: coronavirus disease, COVID-19, pulmonary embolism, anticoagulants.

Декларація етики. Під час збору, аналізу та оприлюднення даних забезпечено конфіденційність пацієнтів, які надали добровільну письмову згоду на викори стання їх даних у науковій публікації.

Конфлікт інтересів. Автори заявляють про відсутність конфлікту інтересів.

Джерела фінансування. Стаття підготовлена згідно з планом науково-дослідної роботи кафедри внутрішньої медицини І Дніпровського державного медичного університету «Оптимізація діагностики та лікування респіраторних захворювань і їх ускладнень, розробка сучасних підходів до корекції та профілактики», No держреєстрації 0118U006020.

Ethics Declaration. During data collection, analysis, and publication, patient confidentiality was ensured. All patients provided voluntary written consent for the use of their data in the scientific publication.

Conflict of interests. The authors declare no conflict of interests.

Funding. This article was prepared in accordance with the research plan of the Department of Internal Medicine 1, Dnipro State Medical University: “Optimization of diagnosis and treatment of respiratory diseases and their complications, development of modern approaches to correction and prevention”, State Registration No. 0118U006020.