To the Chairman of the Scientific Jury
according to Protocol No. 1/ 22.12.2025
and Order No. R-109-515/16.12.2025
of the Rector of the Medical University – Varna

OPINION

for dissertation work for awarding the educational and scientific degree "doctor" in the scientific specialty "nephrology" to Dr. Rumina Plamenova Shaleva, Medical University "Prof. Dr. Paraskev Stoyanov" - Varna, Faculty of Medicine, Department "Second Department of Internal Medicine" on the topic: " PREDICTIVE FACTORS AND PROGNOSIS OF PATIENTS WITH ACUTE KIDNEY INJURY IN COVID-19"

by Assoc. Prof. Dr. Alexander Ivanov Osichenko, MD, scientific specialty – nephrology, Head of the Dialysis Treatment Clinic, Acibadem City Clinic UMBAL Tokuda, Sofia

Initially, COVID-19 was perceived as an acute respiratory disease. Subsequently, the accumulated data categorically show its multisystem nature, which explains the wide spectrum of extrapulmonary manifestations of the infection. Among these manifestations, acute kidney injury (AKI) occupies a special place, which is established as one of the most frequent and clinically significant complications in hospitalized patients with COVID-19.

This determines the relevance of the presented dissertation work of Dr. Rumina Plamenova Shaleva, who aims to determine the frequency and the independent predictors of AKI in hospitalized patients with laboratory-confirmed COVID-19 and to assess the impact of AKI on key clinical outcomes during hospitalization.

The dissertation contains 210 pages and is illustrated with 10 tables and 73 figures. The literature review includes 327 literary sources, all in the Latin alphabet.

Dr. Rumina Plamenova Shaleva knows the essence of the problem well and has presented a creative assessment of the analyzed literary material.

The dissertation is a retrospective observational single-center clinical study covering 436 patients, treated at the University Hospital "St. Marina" - Varna with laboratory-confirmed

COVID-19 disease for the period: January 2020 - December 2023. Of these: 94 developed AKI, 342 did not develop AKI. The two groups were compared by demographic, clinical and laboratory indicators, as well as by duration of hospitalization and in-hospital mortality.

The statistical data were processed using Jamovi and SPSS 27. The various modern methods used correspond to the objectives of the study.

The results obtained are interpreted in depth and compared with data from studies published in the literature. The study confirms that AKI is a common and clinically significant complication in patients with COVID-19. Its frequency in the studied cohort (21.6%) is consistent with data from international studies and emphasizes that renal involvement is a universal phenomenon in COVID-19. Age, arterial hypertension, diabetes mellitus and severity of infection are major factors that determine the risk of developing AKI. Among the laboratory indicators, urea stands out as the strongest individual predictor, and CRP, LDH and D-dimer have additional but significant prognostic value. Acute kidney injury is not just a concomitant phenomenon, but an active part of the total organ involvement in COVID-19, which aggravates the clinical course, increases mortality and prolongs the hospitalization of patients.

The contributions of the dissertation work are of a certain scientific-theoretical and applied-practical nature.

Contributions of a scientific and theoretical nature: 1) The first nationally systematic study of the frequency, predictors and clinical outcomes of acute kidney injury in patients with COVID-19 in a Bulgarian hospital cohort was conducted; 2) The leading role of age as the main background for the development of acute kidney injury was established and the synergistic effect of arterial hypertension and diabetes mellitus on renal risk was proven; 3) It was confirmed that acute kidney injury is an independent prognostic factor for mortality in COVID-19; 4) The prognostic value of inflammatory and coagulation markers (urea, CRP, LDH, D-dimer, ferritin) and the role of acute kidney injury as part of multiorgan dysfunction in severe COVID-19 were clarified.

Contributions of a practical and applied nature: 1) A predictive model for the risk of acute kidney injury in COVID-19 was developed, based on clinical and laboratory indicators available at admission; 2) A compact point score has been created for early risk stratification and rapid identification of patients with an increased probability of AKI; 3) A clinical algorithm for behavior by risk classes (low, medium, high) has been built, which supports early nephrological consultation and nephroprotective decisions; 4) An analytical basis for health-economic assessment and optimization of resources has been provided through analysis of the length of stay and clinical outcomes.

In relation to the topic of the dissertation, Dr. Rumina Plamenova Shaleva has 3 publications in scientific journals.

The materials presented in the procedure meet the requirements of the Law on the Development of the Academic Staff of the Republic of Bulgaria and the Regulations on the Development of the Academic Staff of the Medical University - Varna for the award of the scientific degree "doctor".

In conclusion, I believe that the dissertation work of Dr. Rumina Plamenova Shaleva is complete, modern, thorough, well-structured and designed, with clear and precisely formulated and implemented tasks, with certain conclusions and contributions to both modern science and practice. All this gives me reason to recommend to the members of the esteemed scientific jury to award Dr. Rumina Plamenova Shaleva the educational and scientific degree "doctor" in the scientific specialty of nephrology in the professional field 7.1. Medicine from the field of higher education 7. Health and sports.

01/30/2022

Sofia

Assoc. Prof

Заличено на основание чл. 5, §1, б. „В" от Регламент (ЕС) 2016/679