

Relationship between age and clinical and laboratory features at admission in patients with pulmonary embolism

Boris Džudović¹, Bojana Subotić¹, Danijela Vraneš¹, Milica Stavrić², Vesna Subota², Milica Mirić³, Jovan Matijašević³, Sonja Šalinger⁴, Slobodan Obradović¹

¹Clinic of Emergency Internal Medicine, School of Medicine, University of Defence, Military Medical Academy, Belgrade, Serbia, ²Institute for Medical Biochemistry, School of Medicine, University of Defence, Military Medical Academy, Belgrade, Serbia, ³Institute of Pulmonary Medicine, Sremska Kamenica, Vojvodina, Serbia, ⁴Clinic of Cardiology, Clinical Center Nis, School of Medicine, University Nis, Serbia

Objective. The relation between age and clinical presentation of pulmonary embolism (PE) is not investigated in details.

Methods. One hundred and seventy two consecutive patients with PE treated in the period of five years in the single center were enrolled in this study. According to age, patients were divided into tertiles, I \leq 54 years, II 54-70 years and III $>$ 70 years. Patients' characteristics, Wells score, risk distribution, basic symptoms, ECG signs, laboratory markers at admission and six-month outcome were compared between tertiles of age.

Results. Patients in the third tertile were more often women, and had suffered more from common comorbidities. In the first tertile males and smokers predominated; patients had lower BMI and more frequently positive family history for venous thromboembolism. In the third tertile of age fewer patients were presented as a high probability Wells score and more patients could be classified as high-risk patients. Among ECG signs in the multivariate analysis only atrial fibrillation were significantly associated with advance age. Admission glycaemia, brain natriuretic peptide and ddimers significantly increased and arterial oxygen pressure decreased across the tertiles no matter the presence of comorbidities which may have strong influence. The overall six-month mortality and major bleeding were not significantly different across the tertiles in whole group, but if we excluded patients with malignant disease, mortality rate was highest in the third tertile of age.

Conclusion. In patients with PE there are several important differences in clinical presentation of PE which may have important influence on diagnostic procedures, therapy and outcome.

Key Words: age, electrocardiography, pulmonary embolism, symptoms