Methods. An observational (preliminary) study was performed in a Greek ICU including 31 patients with COVID-19. We divided them in two groups based on lung injury severity score (LISS) at day 1. The first group included patients with LISS < 3 and the second group patients with LISS ≥ 3. Conventional coagulation tests and ROTEM were performed at days 1, 5, 10 and 15. The main coagulation parameters measured and evaluated were D-dimer, fibrinogen, INR and platelet plasma levels and ROTEM- EXTEM and FIBTEM maximum clot firmness (MCF).

Results. Included 31 patients had a mean age of 63.5 (±8.8) years, Charlson Comorbidity Index (CCI) 2.2 (±0.9) and APACHE II score 16.2 (±3.1). 15 patients (48.4%) had LISS < 3 and 16 patients (51.6%) had LISS ≥ 3. D-dimer and fibrinogen plasma levels were increased in both groups. Fibrinogen plasma levels were higher in group LISS ≥ 3 and significantly different between the two groups at days 1 (p = 0.03) and 5 (p = 0.021). INR remained relatively constant in all patients over time, while platelet count decreased. FIBTEM and EXTEM MCF were increased in all patients from day 1 to day 15, with clearly higher values in group LISS ≥ 3. Of all the coagulation parameters, the most statistically significant positive correlation was between platelets and EXTEM MCF, especially in group LISS ≥ 3.

Conclusion. COVID-19 patients are characterized by a hypercoagulability state with reduced fibrinolysis. Our study shows a trend of positive correlation between the magnitude of coagulation abnormalities and the severity of lung injury. Certainly, there remains a need for more, high quality trials in ICU patients with COVID-19.

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Predictors of poor outcome in case of multiple trauma with severe thoracic trauma during the early posttraumatic period

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Introduction. Patients with blunt multiple trauma with severe thoracic trauma (BMTSTT) can change their clinical stability very rapidly hence intense monitoring, especially during early posttraumatic period, is mandatory [1]. Pathophysiology of polytrauma is complex and consists from certain stages of systemic reactions with different predominant mechanisms so different time periods of the early posttraumatic period can have own specific markers for outcome prediction [2, 3].

Objectives. The goal of this study was to determine simple and easy to perform predictive criteria for multiple trauma patients with severe thoracic trauma during early posttraumatic period.

Methods. This prospective observational cohort study was conducted on 73 male patients 20–68 y.o. with BMTSTT (ISS = 18–57; AIS thorax = 3–4; survival/non-survival = 42/31) in department of anesthesiology and intensive care for patients with combined trauma of the Prof. O.I. Meshchaninov Kharkiv City Clinical Emergency Hospital. Examinations were performed on the 1st–2nd (11–34 h.), 3d-4th (48–75 h.) and 5th-6th (97–122 h.) days after trauma. ROC-analyses were performed

in each of the time periods for 39 clinical and laboratory variables and cut-off values were calculated according to Youden's index.

Results. There were no statistical differences between survivors and non-survivors in terms to age, admission time, type of chest injuries, injured body regions, etiology of polytrauma and the number of patients with concomitant alcohol exposure. The highest odds ratios (OR) for negative outcome prediction were estimated for TRISS < 0.834 OR 15.54 (4.68–51.59) p < 0.0001, RTS < 7.004 OR 12.57 (4.1–38.5) p < 0.0001 and AIShead > 4 OR 9.84 (1.12–86.63) p = 0.0372. For the 1st-2nd day after trauma most relevant predictive signs were total protein (TP) concentration < 49.36 g/L OR 18.09 (5.37–60.92) p < 0.0001, Creatinine > 143.1 μmol/L OR 13.5 (3.94–46.23) p < 0.0001, oxygen content < 147.2 ml/L OR 10.27 (2.69–39.06) p = 0.0001. For the 3d–4th day after trauma most significant predictive markers were TP < 53.83 g/L OR 47 (2.678–824.7) p < 0.0001, band neutrophils > 13.5% OR 44.73 (5.23–382.6) p < 0.0001 and WBC > 11.68 G/L OR 14.87 (3.74–59.05) p < 0.0001. For the 5th-6th day after trauma – TP < 53.49 g/L OR 36 (4.38–295.7) p < 0.0001, monocytes < 3.921% OR 18.5 (4.89–69.96) p < 0.0001 and RBC < 3.283 T/L OR 18.18 (3.46–95.51) p = 0.0001.

Conclusion. These findings suggest that in general the same clinical and laboratory signs can't be used for outcome prediction during several days of the early posttraumatic period in case of BMSTT as each of the investigated time periods is characterized by own specific predictive markers. Predictive effectiveness of laboratory markers is different depending on time period. These simple criteria can be helpful for trauma team for monitoring clinical course of polytraumatized patients via recognition those at high risk of negative outcome to improve quality of patient care through early intensive focused care.

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Treatment of Polytraumatized Patients in a Level 1 Trauma Center between 1995 and 2019. 25-Year Experience—what has changed?

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Introduction. To analyze changes of the injury patterns, the mortality rates and the clinical characteristics of polytraumatized patients over the past 25 years.

Methods. Data analyses focused on the changes of the clinical characteristics, injury patterns and mortality rates of 1251 consecutive polytraumatized patients treated between January 1992 and December 2019 in a single level 1 trauma center.

Results. A significant increase of the rates of geriatric polytraumatized patients with a significant increase of the average age by 1.74 years per year could be seen over time. Contrarily, the injury severity showed a significant decrease over time especially in the body regions abdomen and extremities with a significant decrease of mean the injury severity score (ISS). Significantly higher rates of traumatic brain injury (TBI) could be found in the geriatric group of polytraumatized patients, although no changes in the overall rates of TBI could be detected. Characteristic changes in the injury patterns with a significant increase in low energy traumas could be detected. Regarding the late-phase mortality the relative risk increased by 2.2% per patient's year and the relative risk of in-hospital mortality increased by 1.9% per patient's year, whereas the overall mortality rate remained constant over time. Severe TBI, age beyond 65 years of age and ISS scores