

LABORATORIO E FATTORI PREDITTIVI

COAGULATION ALTERATIONS AS PROGNOSTIC INDICATORS IN SEPTIC PATIENTS.

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Background and Aims: sepsis is a major cause of mortality and morbidity globally and, despite advances in diagnostic and therapeutic strategies, it remains a complex condition. In its pathophysiology, in addition to the innate and adaptive immune response, the vascular endothelium also plays a crucial role: indeed, Sepsis Induced Coagulopathy (SIC) and Disseminated Intravascular Coagulation (DIC) significantly increase the risk of mortality. For this reason, early identification of coagulopathy is fundamental to ensure timely and effective patient management.

Methods: retrospective observational study on patients admitted from 12/04/2023 to 11/07/2024 to the emergency room (ER) of the Ospedale di Circolo, selected based on point-of-care presepsin and final diagnosis of sepsis or septic shock. Prevalence and incidence of SIC and DIC were collected, along with 30-day mortality, thrombotic events and major bleeds; logistic regression was performed to identify prognostic factors.

Results: of the 144 patients included, 68 (47.2%) showed early or late coagulation alterations, of which 45 (31.2%) already upon admission to the ER; of these, 44 (30.5%) had SIC, 1 (0.7%) DIC. In patients with early coagulopathy, INR, aPTT, bilirubin and presepsin values were significantly high-

er than in patients without coagulopathy, while mean arterial pressure and platelet count were markedly reduced. Overall, 30-day mortality was found in 38 patients (26,4%), whereas 15 patients (10,4%) experienced thromboembolic events and 13 (9%) major bleeding episodes during hospitalization. Mortality was significantly higher in patients with coagulation disorders (p-value 0.0009), especially among those with early (44.4%) than late coagulopathy (17.4%), confirmed by an OR at multivariate analysis of 4.3 (95%CI: 1.3 - 12.3). In addition, a Sequential Organ Failure Assessment (SOFA) score ≥ 7 was found to be significantly associated with mortality at multivariate analysis (OR 6.6, 95%CI 1.5 - 30) as compared to SOFA score <7 . Increasing age and female sex were also associated with mortality at multivariate analysis (OR 1.1, 95%CI 1.0 - 1.2 and OR 2.8, 95%CI 1.0 - 7.4, respectively). Early coagulopathy was not statistically associated with major thromboembolic or hemorrhagic events at multivariate analysis (OR 1.2, 95%CI 0.3 - 4.7 and OR 0.6, 95%CI 0.1 - 2.8, respectively).

Conclusion: the higher mortality associated with coagulopathy in patients with sepsis underlines that its timely identification and management are crucial to identify patients at risk of progression and improve their prognosis.

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