ROLE OF D-DIMER AS PREDICTIVE FACTOR OF COVID-19 SEVERITY: AN OBSERVATIONAL STUDY IN A SINGLE INSTITUTION IN LOMBARDY, NORTHER ITALY.

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Background: The intent of this work is to describe the observations collected during the treatment of SARS-CoV-2 patients carried out by our ICU (Intensive Care Unit during the pandemia.

Methods: This is a descriptive work on the clinical, biohumoral and ventilatory characteristics of patients at the time of hospitalization in ICU, after 3 and 5 days. In intubated patients, the Ventilatory Ratio (VR) was used for the indirect assessment of dead ventilatory space.

Results: Were evaluated 76 patients; were underline that 82% of patients are men with an average age of 62. At the entry into ICU the mean blood D-dimer level was similar in the two groups of patients considered, with a of Pvalue 0.238. The determination of the VR in all patients undergoing mechanical ventilation shows a substantial difference between surviving patients, with mean value 1.01 (SD 0.47) and deceased, with mean value 1.32 (SD 0.45 Pvalue <0.01).

Discussion: Were observed a direct relationship between the dosage of D-dimer at the time of patient admission to ICU and the patient's ICU hospitalization time with respect to mortality R2 0.246; F (1.18), Pvalue 0.026. The data of the increased level of fibrinolysis led us to attempt a indirectly determine the amount of ventilation unavailable for respiratory exchanges and therefore wasted as dead space. The method chosen was the determination of the VR with which allowed us to observe an increase of about 30% in the respiratory minute volume necessary to maintain in the physiological range the arterial carbon dioxide level in the deceased patients. The VR of the survivors is around 1.01 (SD 0.467) while the VR of the deceased is around 1.32 (SD 0.455) with R2 0.104 (Pvalue 0.006).

Conclusions: We can therefore assume that careful monitoring of the D-dimer (examination with low economic impact and which can be performed routinely) and its correlation with the time of hospitalization in a non-intensive environment allows us to recognize patients with greater impairment of ventilation / pulmonary perfusion and increased dead space.
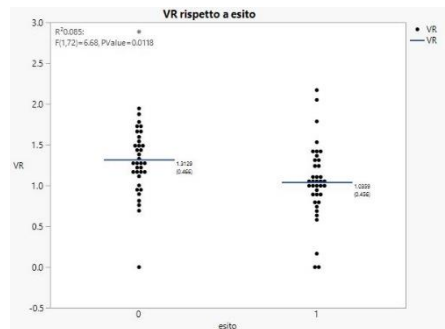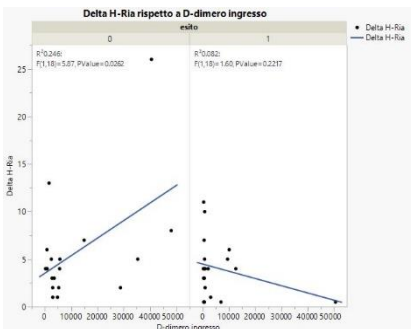
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