Infectious disease

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C-REACTIVE PROTEIN, PROCALCITONIN, LACTATE AND SCORE APACHE II IN SEPTIC PATIENTS’ PROGNOSIS

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BACKGROUND: APACHE-II is a score, based on several clinical and analytical measurements within 24 hours of admission in Intensive Care Unit (ICU). C-Reactive Protein (CRP), Lactate and recently Procalcitonin (PCT), also are biomarkers for the assessment of septic patients. The aim of this study was to find out if CRP, lactate and PCT during the first 24 hours from severe sepsis or septic shock onset, improved prediction of the APACHE II in terms of prognosis.

METHODS: A prospective, observational study in 162 patients >18 years with severe sepsis or septic shock, was developed in a polivalent ICU of a University Hospital. Demographic, clinical parameters and CRP (determined by immunoturbidimetric assay), lactate (measured by selective electrode RAPIDLAB 1260) and PCT (by immunoquimioluminioscance assay, MINIVIDAS) were studied during one year. Descriptive, comparative statistical analysis and Cox proportional-hazards regression was performed using MedCalc ® 9.2.1.0.

RESULTS: We analyzed 162 consecutive episodes of severe sepsis (32%, n=52) or septic shock (68%, n=110) admitted in the UCI, the average age was 64.2 years old (18-85 y.o.), 58.3% were men, 28-day mortality was 17.8% and 35.4 % in septic shock. Cox regression showed for the total of the patients, that PCR showed an increase in the prediction of the APACHE II, 33.4% per unit of APACHE score and 26.3% per mg/dL for CRP. Relative Risk (RR) were 2.97 for APACHE-II and 2.73 for CRP, p=0.0004. If we analyze only patients with septic shock the best predicted mortality was lactate (RR=3.71) with an increase of 69.1% for mmol/L, p=0.003 respectively.

CONCLUSIONS: CRP improves the prediction of patients with sepsis used in conjunction with the APACHE II score in severe sepsis and, lactate along with the CRP are the best predictors of survival in the case of septic shock. The PCT did not show any predictive value.