Infectious disease

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PROADRENOMEDULLIN: AN EFFECTIVE PROGNOSTIC BIOMARKER IN SEPTIC PATIENTS

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BACKGROUND: Measurement of biomarkers is a potential approach to early prediction of mortality in septic patients. The purpose of this study was to assess the prognostic value of proadrenomedullin (pADM) in adult patients with sepsis with a single measurement in the first 24 hours after the onset of severe sepsis or septic shock.

METHODS: Cohort study in adult patients diagnosed with severe sepsis according to the Surviving Sepsis Campaign, admitted to the intensive care unit (ICU) of a University Hospital. Demographic, clinical parameters and pADM were studied during one year. pADM was measured using a homogeneous sandwich immunoassay with fluorescent detection (time-resolved amplified cryptate emission (TRAC)) KRYPTOR®. The descriptive and comparative statistical analysis was performed using the statistical software packages Statistica © Stat Soft Inc 7.1 and MedCalc © 9.2.1.0.

RESULTS: We analyzed 117 consecutive episodes of severe sepsis (15%) or septic shock (85%). The median age of the patients was 64 (inter-quartile range, 53-72) years; the main sources of infection were: respiratory tract (46%) and intra-abdomen (21%). The 28-day mortality was 32.5%. The profile of death patients had a significantly higher average age (64.7 vs. 57.6 years; p=0.024), as well as clinical severity scores, APACHE II (26.6 vs. 23; p=0.006) and SOFA (11.6 vs 89.2; p<0.001). Kaplan-Meier survival analysis was significant. p=0.0017 for patients with a pADM cut-off levels set at 1.2 nmol/L. Cox regression analysis also showed statistical significance (p=0.0033) and a Likelihood Ratio =1.18 per each 1 nmol/L increase in pADM. See figure below (COD_PADM=0; pADM<1.2 nmol/L versus COD_PADM=1; pADM>1.2nmol/L).

CONCLUSIONS: The protein pADM is an important prognostic biomarker of survival when measured on admission of septic patients to the ICU.