

Prognostic Value of Single Inflammatory Markers vs. Multifactor Scores in Moderate and Severe Acute Pancreatitis

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Introduction. Severe acute pancreatitis (SAP) is directly related to severity of multi-organ dysfunction due to systemic inflammatory response syndrome. Multi-factor severity scores now are commonly used to predict mortality rate in SAP. In our hypothesis, single inflammatory marker (as procalcitonin) may have a similar discriminative power to predict mortality in SAP as multi-factor scores.

Aim, Material and Methods. The aim of the study was to compare discriminative power in mortality prediction between inflammatory markers (C-reactive protein (CRP), procalcitonin (PCT), leukocyte count (Leu)) and multi-factor predictive scores (APACHE II; Ranson score). A retrospective cohort study was performed in 2014–2015. APACHE II and Ranson score were calculated. Plasma levels of CRP, PCT, Leu count were measured in 24 hours from admission. ICU mortality was assessed and ROC curves were produced for all variables. AUC of ROC curves were compared to estimate discriminative power in mortality prediction.

Results. From 38 patients included, 39.4% (n = 15) were females. Median age was 50 years. Observed ICU mortality was 28.9% (n = 11). Calculated ROC AUCs were: for APACHE II score (AUC 0.95, 95% CI 0.87–1.02; p < 0.001), for Ranson score (AUC 0.90, 95% CI 0.82–0.99; p < 0.001), for CRP level (AUC 0.94, 95% CI 0.87–1.01; p < 0.001), for PCT level (AUC 0.79, 95% CI 0.47–1.01; p = 0.242) and for Leu (AUC 0.46, 95% CI 0.28–0.65; p = 0.723).

Conclusions. Plasma level of C-reactive protein measured in 24 hours from admission to ICU has a similar discriminative power predicting mortality in SAP patients as widely used multi-factor prediction scores (APACHE II and Ranson score).