

Correlation Between Serum Procalcitonin Levels and 28-Day Mortality in Patients with Surgical Sepsis and Septic Shock

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Abstract

Background: Sepsis is a major medical emergency accounting for approximately 48.9 million cases and 11 million deaths worldwide, representing 19.7% of all global deaths. This study was conducted to evaluate the correlation between procalcitonin values and 28-day mortality.

Methods: A retrospective study was conducted that included patients with sepsis and septic shock, treated in the surgical departments of the Sf. Apostol Andrei Galați County Emergency Clinical Hospital between January 2020 and December 2021.

Results: 125 patients (mean age 65 years), mostly men (56%, n=70) were included. The mean procalcitonin value at admission in the sepsis group (28%, n=35) was 5.98 ng/mL, and in the septic shock group (72%, n=90) was 40.09 ng/mL. The most significant correlation was between procalcitonin at discharge, 28-day mortality ($r = 0.437$; $p < 0.0001$) and SOFA score ($r = 0.356$; $p < 0.0001$).

Conclusions: Procalcitonin at discharge was positively correlated with 28-day mortality and SOFA score. The procalcitonin value at discharge can be used in the prognosis of the patient with surgical sepsis, but for better results the association between procalcitonin, SOFA score and the clinical status of the patient is recommended.

Key words: surgical, sepsis, septic shock, procalcitonin, SOFA score