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Diagnostic Value of Presepsin in Neonatal Sepsis.

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Abstract

Presepsin has recently been described as biomarker of sepsis. The aim of this study was to investigate the diagnostic accuracy of presepsin in diagnosing neonatal sepsis and discriminating sepsis from non-infectious systemic inflammatory response syndrome (SIRS).

The study included 70 full term neonates divided into three groups:

1) Sepsis group (22 patients with clinically suspected sepsis and positive blood cultures)

2) Non-infectious SIRS group (28 patients with clinically suspected sepsis and persistently negative blood cultures)

3) Control group (20 healthy neonates without any clinical signs of infection).

Plasma presepsin level was measured by chemiluminescent enzyme immunoassay (CLEIA) and results were compared with that of C-reactive protein (CRP) assay.

The results revealed that presepsin levels were significantly higher in sepsis group than in non-infectious SIRS group and controls ($P < 0.001$).

The area under the receiver operating characteristics (ROC) curve (AUC) for discriminating sepsis from non-infectious SIRS patients was 0.990 for presepsin and it was significantly higher than that of CRP (0.804).

The best cut-off value for presepsin was 812 pg/ml, which was associated with sensitivity, specificity and negative predictive value of 95.5%, 91.7% and 97.8% respectively.

In conclusion, presepsin is a sensitive and accurate biomarker and is useful for the diagnosis of sepsis and discrimination from non-infectious SIRS in neonates.