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The Role of Serum Interleukin-27 As A Diagnostic Biomarker For Diagnosis of Neonatal Sepsis

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Neonatal sepsis remains a major cause of mortality and morbidity in neonates, Traditional methods for diagnosis like blood culture has a low sensitivity and delayed results in neonates. This study aimed to measure the level of interleukin-27 (IL-27) in sera of patients with neonatal sepsis to determine its potential role as a biomarker for diagnosis of bacterial sepsis. This prospective study included 90 neonates with suspected neonatal sepsis. Plasma levels of IL-27 were measured using an ELISA; blood culture, 16s r DNA and C-reactive protein (CRP) level were done to diagnose sepsis. The ROC curve analysis was performed to evaluate the predictive ability of IL 27 and CRP individually and in combination to identify bacterial sepsis in neonates. The Studied neonates were divided into 45 patients with neonatal sepsis and 45 uninfected systemic inflammatory response syndrome (SIRS) patients as controls. 30 neonates in the infected group were identified by positive blood culture results (66.6%) and 15 patients were identified by being positive for 16s r DNA (33.3%). For IL- 27, the ROC area under the curve (AUC) was 0.991 and a cut-off point of > 485.56 with sensitivity of 95.56% and a specificity of 100%. For CRP, the AUC value was 0.933 and a cut-off point of > 32 with sensitivity of 88.89% and a specificity of 82.22%. In conclusion, our results indicated that elevated IL-27 correlated well with bacterial sepsis among neonatal patients with bloodstream infections and may provide additional diagnostic value along with other available biomarkers.