

## Diagnosis of Neonatal Sepsis using different sepsis markers

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Early diagnosis of sepsis prior to clinical deterioration is of particular interest of neonatologists. Differentiating sepsis from non-infectious triggers of the systemic inflammatory response syndrome (SIRS) is difficult, especially in neonates. Study of 188 was suspected to be infected according to two or more of ACCP/SCCM criteria; blood samples were collected in 3 successive days to measure presepsin, procalcitonin (PCT) and CRP. One hundred twenty four neonates proved to be infected and 64 neonates were free of any evidence of infection and so considered as SIRS. On the 1st day of infection the area under the curve (AUROC) for presepsin, PCT and CRP was (0.97, 0.90, and 0.68 respectively), on 2<sup>nd</sup> the AUROC was (0.98, 0.92, 0.75 respectively) and on the 3<sup>rd</sup> day the AUROC was (0.98, 0.93, and 0.77 respectively). The cutoff value for presepsin was 781 pg/ml all over the 3 days, for PCT was 0.5 ng/ml on 1st day and 1.0 ng/ml on the 2<sup>nd</sup> and 3<sup>rd</sup> day, for CRP was 10 mg/dl over the 3 days. Presepsin and PCT can effectively differentiate between bacterial and non-bacterial infections including SIRS. However, presepsin is earlier, more sensitive and specific sepsis marker rather than PCT and CRP where it rises soon in the 1st day of infection. PCT is a sensitive and specific marker but rises late after infection and has dynamic cutoff which may affect the interpretation of results over days. CRP is late, not specific sepsis marker where it cannot differentiate between bacterial and SIRS in neonates.

### Biography

Hisham Abdelaziz, has completed Bachelors of Medicine and Surgery on 1996, Master of Clinical Pathology on 2000, and M.D. on 2008 from University of Cairo (UC), Egypt. He is a Lecturer of Hematology in National cancer Institute (NCI), UC. He is the Head of clinical laboratory in Almana General Hospital, KSA. He got FRCPATH-Hematology 2012. He published more than 12 articles in good reputed and specialized journals. He addressed the curriculum of hematology to Doctorate students in NCI. He is a member of European Hematology Association (EHA), International Society of Blood transfusion, Saudi Organ Transplant club and Cancer Counsel

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