The Value of procalcitonin in diagnosis of neonatal sepsis

Amgad Adel Kaseb , Mona Hassan Abou El-Ela , Heba Hany Abou Hussein , Dina Farouk Algayar ,
Cairo University
Giza, Egypt
Master (Msc) Thesis , 2004

Abstract
Procalcitonin (Pct) is a new marker of severe bacterial infection this study was designed to assess the value of procalcitonin in establishing the diagnosis evaluating the prognosis of neonatal sepsis thirty full term neonates diagnosed as having neonatal sepsis by clinical presentation a positive blood culture were included in the study procalcitonin median value of the cases with sepsis was 0.36 ng/ml significantly higher than the median value of the controls 0.07 ng/ml (P<0.01). on constructing ROC curve of PCT in the diagnosis of neonatal sepsis, the area under the curve was 0.862, at a cut off level of PCT 0.14 ng/ml, the sensitivity was 80% the specificity 80%, positive predictive value (PPV) 92%, negative predictive value (NPV) 97%, and diagnostic accuracy of 80%. Increasing the cut off level to 0.2 ng/ml, the sensitivity decreased to 66% but the specificity increased to 100%, PPV 100%, NPV 50%, and diagnostic accuracy of 75%. Initial median procalcitonin levels in the cases resulting in death was 1.3 ng/ml, this was significantly higher than the initial values of the patients who had clinical recovery 2 ng/ml (P<0.01). The results supported the use of procalcitonin serum level in neonatal sepsis as a reliable and quick diagnostic and prognostic parameter for clinical use in the future the decision to initiate antibiotic treatment might be based on a positive result of procalcitonin and such strategy would probably reduce the unnecessary use of antibiotic therapy.

Keywords
Neonatal sepsis , calcitonin,