

Diagnostic Role of CD64 on Different Immune Cells in Early Diagnosis of Neonatal Sepsis

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Neonatal sepsis is an important cause of morbidity and mortality among neonates. Early diagnosis leads to better prognosis. CD64 can be used as an early marker to detect neonatal sepsis with promising results. Advances in flow cytometry have made it possible to assess its level on different white blood cells rapidly, precisely and with minimal blood. The aim of the present work was to assess the role of CD64 expressed on neutrophils, monocytes and lymphocytes in establishing diagnosis of neonatal sepsis as well as to compare its diagnostic value with CRP in diagnosis of neonatal sepsis. This study was performed on 80 neonates divided into 60 cases of neonatal sepsis (48 case of clinical sepsis & 12 cases of lab confirmed sepsis) and 20 healthy control neonates. Cases and controls were subjected to history taking, clinical examination and lab investigations in the form of CBC, CRP, CD64 expression on neutrophils, monocytes & lymphocytes and Blood culture (for cases only). Our study showed that CD64 expression on WBCs increases significantly in neonates with neonatal sepsis ($P<0.05$) in comparison to controls. Results also showed that neutrophils CD 64 is the most sensitive indicator for detection of sepsis (sensitivity=95%, NPV=78.57%) at a cut off value of 0.18%, whereas CRP has shown the best specificity at a cut off value 3mg/MI (specificity= 85%). In conclusion, neutrophil CD64 is superior to monocyte and lymphocyte CD64 and serum CRP in diagnosis of neonatal sepsis.