NEUTROPHIL CD64 AS A DIAGNOSTIC MARKER IN NEONATAL SEPSIS

Thesis

Submitted for partial fulfillment of the M. D. degree in Pediatrics

By

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ABSTRACT

Background: Sepsis in neonates hospitalized in the neonatal intensive care unit is a global problem and is a significant contributor to morbidity and mortality. Although treatment of sepsis has evolved in the last decades with newer therapeutic options, little has changed to improve diagnosis or therapeutic monitoring.

Objective: This case control study aimed to evaluate the diagnostic utilities of neutrophil CD64 (nCD64) expression for the diagnosis of neonatal sepsis.

Subjects and methods: The study was performedon 41 neonates with evidence of sepsis admitted in the Neonatal Intensive Care Unit (NICU) of Fayoum University Hospitals as a case group and 19 healthy neonates as a control group. Detailed history and meticulous general & systemic examinations was done. Complete blood count, C-reactive protein **(**CRP), blood culture and CD64 index were done simultaneous at time of evaluation. Neutrophil CD64 was analyzed by flow cytometry.

Results: Neutrophil CD64% showed moderate sensitivity (70.7%) and moderate specificity (73.7%) with cut off value 17.8 in diagnosis of neonatal sepsis.

Conclusion: There was a significant difference in the percentage of neutrophils expressing CD64 between the case and control groups so nCD64 can be considered a useful marker in diagnosis of neonatal sepsis.

Key words: neonatal sepsis, neutrophils, CD64, Flow cytometry.