Predictive Value of Heart Rate Observation (Hero) Score For Sepsis in Preterm Neonates

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ABSTRACT:

Background: Neonates admitted to neonatal intensive care units (NICU) are at an increased risk to develop sepsis, especially preterm neonates because of their immature immune systems. Early detection of sepsis, before pronounced clinical deterioration, would allow earlier administration of supportive treatments and antibiotics this will improve morbidity and lead to favorable outcomes.

Aim of the work: The aim of this study was to determine the effectiveness of HeRO score to detect neonatal sepsis in preterm neonates

Patients and Methods: This prospective observational study included 170 preterm infants. All studied neonates were subjected to HeRO scores initially and throughout hospital stay. Confirmation of neonatal sepsis was done by withdrawal of positive C-reactive protein (CRP) and positive blood culture.

Results: The studied neonates were divided into initial septic group and non-septic neonates; HeRO score showed statistically significant increase in septic patients than non-septic (median (IQR) 2 (2-3)vs. 1 (0-1) respectively for day 1 of admission p <0.001, and 2(1-2)vs 0 (0-1) on day 4 of admission   p <0.001) with a cut off value of > 1 in both day 1 and 4 with sensitivity and specificity 92.75% & 98.02% for day 1 and 65.22 % and 85.a5% in day 4.

Conclusion: HeRO score can be used for early detection of neonatal sepsis in preterm neonates.

Keywords: Sepsis, Preterm neonates, HeRO score, Prognosis and Outcome.