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Cardiac function in neonatal sepsis

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Objective: Neonatal sepsis is associated with the presence of the Systemic Inflammatory Response Syndrome (SIRS) in response to a culture-proven infection. It is known as one of the most frequent causes of mortality in the neonatal intensive care units. The study has aimed to investigate the effects of neonatal sepsis on cardiac function of the infants.

Methods: The study is based on prospective cohort research. It consists of two groups; control group and focus group. The focus group comprised of 30 full-term neonates with neonatal sepsis admitted to NICU; whereas, healthy neonates were included in the control group. Neonatal sepsis was diagnosed among the infants with the presence of at least two clinical signs of sepsis including feeding intolerance, temperature instability, apnea, poor reflexes, poor capillary refill >2 seconds. The clinical examination of neonates including CBC, CRP, blood culture and sensitivity was also conducted. Moreover, echocardiography was performed on participants of both groups.

Results: The results revealed that 50% of the patients from both the groups were male. The mean weight of the infants ranged from 2.2 to 3.5kg with a mean of 2.9 ± 0.3 kg. Results showed that 63.3% patients had low platelet count and 16.7% patients suffered from leukocytosis. 11 patients (36.7%), suffering from sepsis, were diagnosed with significant shift in their neutrophil count. There were significant changes in the echocardiogram of the patients suffering neonatal sepsis; whereas, dramatic improvement in cardiac function was observed by comparing the parameters before and after resolution of sepsis.

Conclusion: The septic neonates experienced significant cardiovascular changes that are revealed through the technique known as echocardiography.