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# Serum neopterin as a diagnostic marker for neonatal sepsis

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Summary- 121 -Summary Neonatal sepsis is one of the most challenging problems despite the ongoing progress in diagnosis and treatment. For many years, a search has been ongoing to find predictors of neonatal sepsis that identify effectively patients who are at risk of infection. Neopterin is considered an activation marker of the monocyte/ macrophage system in various inflammatory diseases. The aim of our study is to evaluate the diagnostic value of serum neopterin level in Neonatal sepsis. This study was conducted on 40 neonates with confirmed sepsis and 15 neonates with suspected sepsis and 15 healthy neonates with No clinical signs or laboratory evidence for sepsis serving as a control group. Neonates with severe congenital anomalies, clinically apparent chromosomal abnormalities and Inborn error of metabolism were excluded. For all neonates the Following were performed: □ Histoty taking : (to detect risk factors for sepsis), □ Thorough clinical examination, □ Laboratory investigation including:- □ Complete Blood count with differential leucocytic count. □ CRP quantative assay. □ Blood culture. Summary- 122 - □ Blood samples were withdrawn from all neonates by Venipuncture to determine Neopterin serum level by Enzyme linked immuno-sorbent assay (ELISA). □ Statistical analysis of the results. The Results of our study were □ The serum neopterin was significantly higher in the infected group and suspected group compared to control group and show high sensitivity and specificity. So it act as a diagnostic marker in neonatal sepsis. □ Our study revealed that best cut off value for serum neopterin to detect sepsis was 33.6 nmol/l with sensitivity 80.6% and specificity 93.5 %. □ The serum neopterin increased significantly in non survival than survival patients so it act as a prognostic marker in neonatal sepsis. □ There are significant positive correlations between NT Level and CRP and H.S.S, out come of babies and maternal age in septic neonates and no significant correlation between NT Level and APGAR Imin and APGAR 5min. □ Also we found significant reduction in HB Levels among cases groups and also highly significant reduction in platelet count among cases group and highly significant increase in I/T ratio and I/M ratio among cases group. □ In conclusion the usage of serum neopterin as a marker for diagnosis of neonatal sepsis proved to be valuable.