Summary

Neonatal septicemia is one of the major health problems throughout the world. Infections are a frequent and important cause of morbidity and mortality in neonatal period. Neonatal septicemia is a clinical syndrome characterized by signs and symptoms of infection with accompanying bacteremia in the first month of life**.**

It is very important that clinicians have the tools to recognize and diagnose sepsis promptly because early diagnosis and treatment may lead to improvement in both mortality and morbidity

Several markers are now available for routine diagnosis in the clinical laboratory. They include the cytokines interleukins and procalcitonin One of these markers is human neutrophil lipocalin. It is released from secondary granules of neutrophil granulocytes and is regarded as a specific marker of neutrophil activity Plasma levels of human neutrophil lipocalin rise in inflammatory or infective condition. It mediates an immune response to bacterial infection by sequestering iron**..**

Our study includes **60** neonates They were divided into two groups:

Group I (cases): included **40** cases (**18** male and **22** female) of neonates who showed the clinical picture of sepsis and laboratory investigation showing criteria of sepsis but divided to proven (27) and non proven sepsis (13) according to blood culture results.

Group II(control): included **20** cases of neonates who do not have neonatal sepsis but was diagnosed as transient tachypnea of newborn and neonatal juandice, (**13** male and **7** female).

All our groups were subjected to Full history taking , Full clinical examination and those investigaions ,CBC, Measurement of serum human neutrophil lipocalin,CRP, Blood culture, Statistical analysis of the results.

Our results revealed that there was no statistical difference regarding gestational age , birth weight, sex , mode of delivery , and also in CBC parameters like HB, RBCs ,LC, Mature PMN and I/M ratio while there is highly statistical difference regarding to apgar score at 1 and 5 minutes. and HSS was significantly higher in septic neonates than non septic groups.

Also in our study all septis neonates had positive CRP , and blood culture was positive in 27 case (45%).

We found that HNL level was highly increased in the cases proved to have sepsis more than the control healthy group.

In comparison of HNL at birth and at day 3 with CRP it was found that HNL at birth is the best one in diagnosis of sepsis followed by CRP then at HNL day 3.

In comparison of HNL at birth and at day 3 with L.C and PLC ratio was found that HNL at birth is the best one in diagnosis of sepsis followed by HNL at day 3 followed by L.C then PLC.

That we found that HNL is promising marker in early diagnosis of neonatal sepsis and is more better than a lot of many diagnostic methods.