A Thesis Submitted in partial fulfillment M. D. degree in Clinical and chemical pathology.

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ABSTRACT

Neonatal sepsis is defined as a disseminated disease with positive blood culture during the first month of life. It consider a serious disease with high mortality rate in newborn .Blood culture has been considered gold standard for the diagnosis of neonatal sepsis.Whoever the limitation of the gold stander not only in the delay of cultures reports after 48-72 hours but also in they frequently false negative results.

The broad-range PCR assays targeting the 16S rRNA gene had been suggested as a potentially useful test in the diagnosis of neonatal sepsis.The present study targeting to evaluate the role of molecular technique in diagnosis of neonatal sepsis .The study done on (62) neonates suffering from neonatal sepsis to perform blood culture with subsequent PCR followed by sequencing for PCR positive cases using broad range pan-bacterial primers.

In the present study the diagnosis of bacterial sepsis in the newborn by PCR revealedsensitivity,specificity,PPVandNPV was (86.05%,62.5%,86.05%,62.5%) respectively. While the accuracy of this test was (79.66%). In comparison to the culture, the 16SrRNA PCR demonstrated a high negative predictive value that could help us in ruling out neonatal sepsis and stop unnecessary antibiotics.

The result support that PCR has potential as a method for earlier detection of bacteria but this technology needs to be further developed and improved.

Key words: Blood culture ,Neonatal sepsis, ,PCR and Sequencer.