Summary and Conclusion

Despite improved neonatal care over the past decades, infections remain common and sometimes life-threatening in neonates admitted to the neonatal intensive care unit (NICU).

Leptin is a 16-kDa polypeptide hormone that is mainly, but not exclusively, produced in adipose tissue and plays an important role in the innate immune defence.

The present study was designed to evaluate the level of serum leptin in cases of neonatal sepsis.

The study was conducted on 55 fullterm neonates divided into cases and control groups.

The cases group compromised 35 newborns who were diagnosed as having neonatal sepsis. They were 12 males (34.3%) and 23 females (65.7%), with mean gestational age of (38.23 ± 1.03 weeks), mean birth weight of (2.93 ± 0.55 Kg) and mean initial serum leptin level of (4.08 $\pm$ 0.49 ng/ml)

The control group compromised 20 healthy newborns; 7 males (35%) and 13 females (65%), with mean gestational age of (37.75 ± 0.79 weeks), mean birth weight of (3.45 ± 0.16 kg) and mean serum leptin level of (1.71 $\pm$ 0.15 ng/ml).

All patients in the study were subjected to adequate history taking, full clinical examination, CBC, CRP with titre, blood culture and serum leptin assay at the time of diagnosis and after recovery from sepsis.

In our study we found that neonates who developed sepsis had their serum leptin levels significantly higher than those of the control group and leptin levels were highly significantly higher in patients before antimicrobial therapy than after antimicrobial therapy.

Also, There were no significant correlations between serum leptin and CBC parameters or CRP but there was a significant positive correlation with sepsis score.

A significantly higher serum leptin was found in patients with positive blood culture compared to those with negative cultures but there was no difference in serum leptin level between survivors and non-survivors.

Our study revealed that the best cut off value for serum leptin to detect sepsis was 2.75 ng/ml with sensitivity 75% and specificity 70%.