Summary and Conclusions

Neonatal sepsis, sepsis neonatorum and neonatal septicemia are terms used to describe the systemic response to infection in the newborn. It is still a major cause of morbidity and mortality in the neonatal period. Elevated IL-1B, IL-6, IL-8 and TNF- α levels have been found in both neonatal and adult sepsis.

Our study was done in Aga and Benha University Hospitals to determine the role and value of serum interleukin-8 (IL-8) & tumor necrosis factor-α (TNF–α) in the diagnosis of neonatal sepsis.

Our study was carried out on 30 newborns divided into 2 groups:

Group (A): Septicemic newborns (n = 20).

Group (B): Healthy full term newborn (n = 10) as controls.

Each of the studied newborns was subjected to history taking, clinical examination and laboratory investigations including CBC, CRP, ESR, blood culture as well as serum IL-8 and TNF-α by ELISA.

Prematurity, low birth weight and premature rupture of membranes were found to be high risk factors predisposing to neonatal sepsis. Abdominal distension, poor neonatal reflexes, respiratory distress, lethargy, hepatosplenomegaly, jaundice and convulsions were the most common clinical presentations.

Blood cultures were positive in only 40% of our cases. *E-coli* was the commonest organism isolated followed by *Staphylococcus aureus* (66.7% and 33.3% respectively).

Our patients had highly significant decrement in Hb% as well as leucocytosis, myeloid shift to the left and high ESR and CRP levels. Serum IL-8 and TNF-α levels of culture-proven sepsis were significantly higher than those of the control group. So, these investigations can be helpful tools for early diagnosis of neonatal sepsis.

Recommendations

- Premature delivery, low birth weight and premature rupture of membranes should be avoided as much as possible and properly managed if they happen.
- Strict infection control practices are mandatory in every hospital especially in the delivery rooms and NICU's.
- CBC as well as ESR and serum CRP level as easy, widely available, inexpensive and helpful tools should be used for diagnosing neonatal septicemia.
- Estimation of the serum levels of IL-8 and TNF-α as mediators of inflammation should be considered at the diagnosis and the evaluation of the therapeutic efficiency in neonatal sepsis.