Summary and conclusions

The study was conducted on 101neonates with sepsis (68 male and 33 female). The diagnosis depends on determination of value of sepsis score according to this value sepsis work up was done the sepsis screen include the following laboratory investigations:-

i. Total leukocyte count < 5000/mm^3
ii. Band cell count ≥ 20%
iii. Micro ESR ≥ 15 mm/ 1st hour
iv. C-reactive protein > 6 mg/dL
v. Absolute neutrophil count <1500/mm^3

Sepsis screen is considered positive if two of these are positive. Patients were evaluated according to the estimated neonatal sepsis score as follow:-
Score1= risk of infection, score 2= need septic work up to exclude, score 3 or more= investigate and treat.

Early onset sepsis occur within 72 hours after birth. In this category there were 43 patients (27 term; 21 male and 6 females and 16 preterm; 9 male and 7 female). Late onset sepsis occur after the 72 hours of birth. In this category there were 58 patients (23 term; 17 male, 6 female and 35 preterm; 21 male and 14 female).

In the current study there were 51 (50.5%) with birth weight less than 2.5 KG and 50 (49.5%) patients with birth weight more than 2.5KG.

There were 11(10.9%) very low birth weight (VLBW) patients (6 male and 5 female) and 40 (39.6%) patients were low birth weight (LBW) patients (25 male and 15 female).

There were 10 (9.9%) very low birth weight (VLBW) preterm patients (5 male and 5 female); and one (0.9%) very low birth weight (VLBW) term male patient.

Of 40 (39.6%) low birth weight (LBW) patients there were 31 preterm patients (18 male and 13 female) and 9 (8.9%) term patients (7 male and 2 female).

There were 33 patients underwent blood culture and sensitivity tests. Neonatal sepsis patients who give blood culture positive tests were 23 (15 male and 8 female). There were 13 patients with Gram positive septicemia (9 male; 2 preterm and 7 full term, 4 female; 2 preterm and 2 full term).

There were 10 patients with Gram negative septicemia (6 male; 2 preterm and 4 full term and 4 female; 2 preterm and 2 full term). There were 10 patients with early onset sepsis (EOS)(8 male; 1 preterm, 7 full term and 2 female; 1 preterm, 1 full term) and 13 patients with late onset sepsis (LOS) (7 male; 3 preterm, 4 full term and 6 female; 3 preterm, 3 full term).

Isolated gram positive organisms were staphylococcus aureus and Group B streptococcus. On the other hand isolated gram negative organisms were Escherichia coli and klebsiella and enterococcus bacilli.

Risk factors of neonatal sepsis

1-Risk factors in neonatal sepsis patients

a- Maternal risk factors

The maternal risk factors statistically significant as risk factors in the development of neonatal sepsis in the current study were:-
Socioeconomic status and premature rupture of membranes (PROM) which carry 0.76 and 1.35 times risk for the development of sepsis respectively.

Other maternal risk factors; maternal age, educational status, parity, mode of delivery (cesarian, vaginal, instrumental), meconium stained amniotic fluid (MSAF), maternal fever in the third trimester two weeks before delivery, pregnancy induced hypertension (PIH), pre eclamptic toxemia (PET)/

eclampsia, foul smelling amniotic fluid antepartum hemorrhage, maternal chronic diseases and medications show no statistical significance as risk factors for the development of neonatal sepsis.

b- Fetal risk factors

The fetal risk factors which statistically significant as risk factors for the development of neonatal sepsis in the current study were:-

Birth weight, Apgar score at 1 minute, gestational age, sex. They carry 1.21,1.33,1.29 and 1.29 times risk for the development of sepsis respectively.

Other fetal risk factors; Birth asphyxia and Complications during labour show no statistical significance as risk factors for the development neonatal sepsis. Sepsis score is significantly increased in patients group than control group.

2- Risk factors in blood culture positive neonatal sepsis patients

a- Maternal risk factors

The maternal risk factors statistically significant as risk factors in the development of neonatal sepsis in the current study were:-

Socioeconomic status and premature rupture of membranes (PROM). They carry 2.5 and 1.6 times risk for the development of neonatal sepsis respectively.

b- Fetal risk factors

There were no fetal risk factors statistically significant in the development of neonatal sepsis in this patients group.

Sepsis score is significantly increased in patients group than control group.