

Table (1): Blood culture among septic group

| Blood culture organism | Septic group (No=20) | |
|------------------------------|----------------------|----|
| | No | % |
| Candida albican | 1 | 5 |
| CONS | 2 | 10 |
| E.coli | 4 | 20 |
| Enterobacter | 2 | 10 |
| GBS | 3 | 15 |
| Klebsiella | 6 | 30 |
| Staphylococcus aureus | 1 | 5 |
| Strept. pneumonia | 1 | 5 |

E. Coli: Escherichia Coli, GBS: Group B-Streprococci

Table (2): Hematological Scoring System (HSS) parameters (Mean ± SD) of studied groups

| Parameters | Sepsis (N=20) | Probable sepsis (N=20) | Controls (N=20) | P value |
|---------------------------------------|------------------|------------------------------|--------------------|---------|
| Total WBC count | 20.04±11.2 | 15.5±9.38 | 12.2±3.03 | 0.001** |
| Total PMN count | 9283±3802 | 6641±466 | 5529±958 | 0.035* |
| Immature count | 2099±376 | 800±395 | 200±145 | 0.001** |
| I/T ratio | 0.22±0.09 | 0.12±0.84 | 0.03±0.15 | 0.001** |
| I/M ratio | 0.7±0.90 | 0.87±0.15 | 0.96±0.84 | 0.016* |
| Degeneration | 25.3±0.82 | 19±0.11 | 0.0±0.0 | 0.001** |
| Platelet count x10³ | 112.5±30.7 | 174.9±100 | 249±71 | 0.001** |

*Statistically significant **Highly significant

WBC: White blood cells, PMN= polymorphnuclear cells – I/T= Immature/total –

I/M=Immature/mature

Table (3): Hematological Scoring System (HSS) scores in studied groups.

| Scores | Sepsis (N=20) | | Probable sepsis (N=20) | | Controls (N=25) | | P1 | P2 | P3 |
|------------------|------------------|------|------------------------------|------|--------------------|------|--------|---------|---------|
| | N | % | N | % | N | % | | | |
| Score 0–2 | 0 | 0.0 | 5 | 25.0 | 17 | 85.0 | | | |
| Score 3–4 | 5 | 25.0 | 8 | 40.0 | 2 | 10.0 | <0.01* | <0.001* | <0.001* |
| Score ≥5 | 15 | 75.0 | 7 | 35.0 | 1 | 5.0 | | | |

*Statistically significant ** highly significant

P value < 0.05: statistically significant – P value ≤ 0.01: statistically highly significant, P1: between septic and probable septic groups – P2: between septic group and controls, P3: between probable septic group and controls

Table (4): Receiver operating characteristic (ROC) curve for differentiation of early diagnosis of neonatal sepsis according to HSS findings.

| Marker | AUC (95% CI) | Significance | Sensitivity | Specificity | PPV | NPV |
|------------|-----------------------|--------------|-------------|-------------|-------|-----|
| HSS | 0.76 (0.599–0.881) | 0.001 S | 96% | 90% | 86.7% | 86% |

AUC: Area under curve, HSS: Hematological Scoring System, PPV: Positive predictive value, NPV: Negative predictive value

Table (5): Performance of individual hematologic findings in early diagnosis of neonatal sepsis

| Item | Sensitivity (%) | Specificity (%) | PPV | NPV |
|-----------------|-----------------|-----------------|--------|-------|
| Total WBC count | 46% | 78.3% | 33.42% | 46.9% |
| Total PMN count | 49.6% | 66.5% | 42.5% | 63.3% |
| I/T ratio | 80.3% | 78.2% | 66.3% | 84.7% |
| I/M ratio | 78.3% | 66.5% | 42% | 60% |
| Platelets | 75% | 90% | 88.2% | 78.3% |

**Statistically significant **Highly significant*

WBC: White blood cells, PMN: Polymorph nuclear, PPV: Positive predictive value, NPV: Negative predictive value, I/T= Immature/total – I/M=Immature/mature