

**Table (1): Baseline demographic and clinical characteristics of the studied neonates.**

| Variable                  | Total<br>(n=111) | Studied groups              |                            | P. value<br>(Sig.) |
|---------------------------|------------------|-----------------------------|----------------------------|--------------------|
|                           |                  | Patients<br>group<br>(n=61) | Control<br>group<br>(n=50) |                    |
| Maternal age (years)      | 29±7.5           | 28±6.4                      | 29±5.4                     | 0.29 <sup>NS</sup> |
| Sex (M/F)                 | 61/50            | 33/28                       | 28/22                      | 0.38 <sup>NS</sup> |
| Gestational age (weeks)   | 31.6 ± 2.1       | 31.1 ± 1.8                  | 31.8 ± 2.2                 | 0.22 <sup>NS</sup> |
| Birth weight (kg)         | 1.73 ± 0.33      | 1.75 ± 0.29                 | 1.57 ± 0.31                | 0.12 <sup>NS</sup> |
| Caesarean delivery (%)    | 85(77%)          | 44(40%)                     | 41(37%)                    | 0.24 <sup>NS</sup> |
| APGAR score at 5 min      | 7(6-8)           | 8(7-8)                      | 7(6-8)                     | 0.14 <sup>NS</sup> |
| Age at study entry (days) | 7(6-14)          | 8(6-13)                     | 7(6-14)                    | 0.28 <sup>NS</sup> |
| Positive blood culture    | 30(27%)          | 30(27%)                     | 0(0%)                      | <b>0.000*</b>      |

NS: Not significant.

\*: Significant ( $p < 0.01$ ).

**Table (2): The studied sepsis biomarkers among the studied groups**

| Item                  | Patients group<br>(n=61)   |                         | p-value <sup>a</sup> | Control group<br>(n=50) | p-value <sup>b</sup> |
|-----------------------|----------------------------|-------------------------|----------------------|-------------------------|----------------------|
|                       | Suspected sepsis<br>(n=31) | Proven sepsis<br>(n=30) |                      |                         |                      |
| <b>At study entry</b> |                            |                         |                      |                         |                      |
| TLC                   | 16,214±3,415               | 17,524±5,274            | 0.14 <sup>NS</sup>   | 15,541±4,414            | 0.09 <sup>NS</sup>   |
| I/T ratio             | 0.25±0.1                   | 0.27±0.2                | 0.09 <sup>NS</sup>   | 0.12±0.05               | <0.01*               |
| CRP(mg/dl)            | 66.2±35.2                  | 75.2±31.7               | 0.41 <sup>NS</sup>   | 2.5±2                   | <0.01*               |
| IL-6 (pg/ml)          | 119.5±7.2                  | 128.7±8.2               | 0.25 <sup>NS</sup>   | 11.8±0.5                | <0.01*               |
| Endocan<br>(ng/ml)    | 35.9±12.4                  | 37.4±7.8                | 0.004*               | 2.05±0.52               | <0.01*               |
| <b>After 3 days</b>   |                            |                         |                      |                         |                      |
| WBC                   | 12,321±3,114               | 11,981±5,254            | 0.25 <sup>NS</sup>   |                         |                      |
| I/T ratio             | 0.21±0.1                   | 0.23±0.2                | 0.12 <sup>NS</sup>   |                         |                      |
| CRP (mg/dl)           | 33.4±15.1                  | 35.4±12.4               | 0.22 <sup>NS</sup>   |                         |                      |
| IL-6 (pg/ml)          | 90.4±2.1                   | 89.5±3.2                | 0.13 <sup>NS</sup>   |                         |                      |
| Endocan<br>(ng/ml)    | 45.2±17.2                  | 46.1±6.7                | 0.27 <sup>NS</sup>   |                         |                      |
| <b>After 7 days</b>   |                            |                         |                      |                         |                      |
| WBC                   | 13,142±4,214               | 11,117±3,654            | 0.11 <sup>NS</sup>   |                         |                      |
| I/T ratio             | 0.12±0.1                   | 0.15±0.2                | 0.08 <sup>NS</sup>   |                         |                      |
| CRP(mg/dl)            | 4.3±1                      | 3.9±1.2                 | 0.74 <sup>NS</sup>   |                         |                      |
| IL-6 (pg/ml)          | 24.2±1.1                   | 25.1±1.2                | 0.25 <sup>NS</sup>   |                         |                      |
| Endocan(ng/ml)        | 4.5±1.7                    | 4.8±1.7                 | 0.29 <sup>NS</sup>   |                         |                      |

NS: Not significant.

\*: Significant ( $p < 0.01$ ).

Abbreviations: CRP, C-reactive protein levels; IL-6, interleukin 6; I/T ratio, immature by total ratio; TLC, total leukocyte count

p-value<sup>a</sup>: Comparison between suspected and proven sepsis groups.

p-value<sup>b</sup>: Comparison between the control group with both suspected and proven sepsis groups.

**Table (3): Serum Endocan correlations with the studied parameters**

|                                | Serum endocan |                    |
|--------------------------------|---------------|--------------------|
|                                | r             | p                  |
| <b>Gestational age (weeks)</b> | 0.22          | 0.9 <sup>NS</sup>  |
| <b>Weight (kg)</b>             | -0.16         | 0.19 <sup>NS</sup> |
| <b>TLC</b>                     | 0.40          | 0.14 <sup>NS</sup> |
| <b>I/T ratio</b>               | 0.23          | 0.09 <sup>NS</sup> |
| <b>CRP (mg/dl)</b>             | 0.63          | <0.01*             |
| <b>IL-6 (pg/ml)</b>            | 0.79          | <0.01*             |

NS: Not significant.

\*: Significant ( $p < 0.01$ ).

Abbreviations: CRP, C-reactive protein levels; IL-6, interleukin 6; I/T ratio, immature by total ratio; TLC, total leukocyte count

**Table (4): ROC curve analysis of I/T ratio, CRP, IL-6 and serum endocan for prediction of neonatal sepsis**

| Item                   | Cutoff point | Sensitivity % | Specificity % | PPV% | NPV% |
|------------------------|--------------|---------------|---------------|------|------|
| <b>I/T ratio</b>       | 0.20         | 78            | 75            | 79   | 76   |
| <b>CRP (mg/dl)</b>     | 18           | 89            | 90            | 91   | 90   |
| <b>IL-6 (pg/ml)</b>    | 29.2         | 91            | 88            | 92   | 89   |
| <b>Endocan (ng/ml)</b> | 5.5          | 88            | 85            | 87   | 87   |

AUC, area under the curve; CRP, C-reactive protein levels; IL-6, interleukin 6; I/T ratio, immature by total ratio; NPV, Negative predictive value; PPV, positive predictive value; ROC, Receiver operating characteristic curve.