

## **Neutrophil CD11b, CD64 and Lipocalin-2: Early Diagnostic Markers of Neonatal Sepsis**

**Abeer Sheneef<sup>1</sup>, Tamer Mohamed<sup>1</sup>, Naglaa F Boraey<sup>2</sup>, Mostafa Ashry Mohammed<sup>2</sup>**

Departments of <sup>1</sup>Medical Microbiology& Immunology and <sup>2</sup>Pediatrics, Faculty of Medicine, Sohag University, Sohag, Egypt.

Neonatal sepsis remains a global health problem particularly in the developing countries. Its diagnosis remains one of the most difficult issues in clinical medicine. Many immunologic markers including neutrophils CD11b and CD 64 and Lipocalin-2 have been tested as biomarkers of neonatal sepsis. The aim of the present study was to assess the value of these markers for early diagnosis of neonatal sepsis. The study included 60 neonates with suspected neonatal sepsis and 20 apparently healthy controls. Lipocalin-2 serum level was assessed by ELISA while neutrophils CD11b and CD64 expressions were evaluated by flow cytometry. Neutrophils CD64 and CD11b expression levels elevated significantly in cases ( $67.8 \pm 7.57$ ) and ( $57.01 \pm 2.46$ ) respectively than in controls ( $11.78 \pm 7.20$ ) and ( $8.26 \pm 4.79$ ). Lipocalin-2 serum level was significantly higher in the patients ( $145.3 \pm 55.3$ ) than in controls ( $22.4 \pm 12.9$ ). In conclusion, neutrophils CD64, CD11b and Lipocalin-2 are early, specific and sensitive diagnostic markers of neonatal sepsis.