The Relationship Between Scoring Systems and Cytokine Levels in Neonatal Sepsis

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Abstract

In this study, 20 newborn infants with sepsis were evaluated and scored according to the criteria of Töllner and Rodwell and associates. Leukocyte count, serum C-reactive protein (CRP), tumour necrosis factor (TNF)-alpha and interleukin (IL)-6 levels were also studied in all infants. The aim of this study was to determine if a relationship exists between the scoring systems and the cytokine levels in neonatal sepsis. The infants were divided into two groups as blood culture positive and negative. Blood culture was positive in 12 (60%) infants. We did not find a significant difference for leukocyte count, cytokine levels and scoring systems between the blood culture positive and negative groups. However, we found a positive correlation between the scoring systems and serum CRP and TNF-alpha levels (P <0.05), but no correlation with IL-6. In conclusion, we suggest that only serum CRP level without performing scoring and studying serum TNF-alpha concentration may be used in early diagnosis of neonatal sepsis. However, further studies are necessary to define this because of the small sample size of our pilot study.

***Ann Acad Med Singapore* 2003; 32:418-20**

Key words: C-reactive protein, Interleukin-6, Newborn, Tumour necrosis factor

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