Introduction

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Definition

Sepsis means a clinical syndrome resulting from pathophysiolo--gical effect of local or systemic infection, associated with general systemic manifestations and positive blood culture *(Vesikari et al., 1986).*

The diagnosis of neonatal sepsis is frequently difficult, changes in body temperature, heart rate, white blood cell count and respiratory rate presented low specificity and positive bacteriological samples are often late or absent *(Frausts et al., 1995).*

Bacterial infections are a leading cause of morbidity and mortality in preterm infants, but the clinical signs are often non- specific, even in serious invasive disease. Thus, the decision to start antibiotic therapy is frequently based on non specific clinical clues and numerous infants are treated with prolonged courses of antibiotics in the absence of proven infection. *(Kaufman and Fairchild., 2004).*

Identification of the septicemic infant is one of the most difficult tasks in pediatric practice due to wide variation and non specific symptoms and signs. Several studies have searched for reliable early indicators of sepsis in the newborn *(Laforgia et al., 2004).*

Complete white cell count, the ratio of immature/ mature neutrophils, CRP have been suggested as useful parameters for the early diagnosis of sepsis in newborn however, in the early course of sepsis,

their level may be normal therefore serial determination during the onset of sepsis are recommended ***(Manusha et al., 2004).***

Procalcitonin (PCT) has been reported to be an excellent diagnostic test for detection of invasive bacterial infection in adults and children ***(Chiesa et al., 2004).***

Studies of Procalcitonin behavior in patients with sepsis have led to the proposal that it may be a useful marker of systemic bacterial infection with greater sensitivity than acute phase protein such as C-Reactive protein. ***(Van Rossum et al., 2004).*** But definite results was not established in preterms. ***(Assicot et al., 2005).***