Introduction & Aim of the work

Neonatal sepsis is a clinical syndrome in the first month of life manifested by systemic signs of infection and isolation of a pathogen from the bloodstream ***(Edwards and Baker, 2004)***. Early-onset neonatal sepsis (EOS), acquired by vertical transmission in the perinatal period, either shortly before or during the process of birth; and Late-onset sepsis (LOS), acquired by horizontal transmission either in the community or in the nursery ***(Baltimore, 2003).***

The diagnosis of sepsis remains one of the most difficult diagnostic tasks for neonatal nurses, neonatal practitioners and physicians. Blood cultures often remain negative in the presence of pneumonia, meningitis and even fulminant blood borne septicemia. Capturing the specific organism in a small sample of peripheral venous blood remains a very difficult task. An early laboratory and specificity test for neonatal sepsis would be a valuable tool for therapeutic decision- making, thus avoiding the unnecessary use of antibiotics in those patients without infection but in whom sepsis is suspected on a clinical basis. ***(Horns 2000 and Espinosa et al, 2002)***

CD11b is a cell surface antigen of neutrophil and is normally expressed at a very low level on the surface of non-activated cells ***(Ng PC 2006 and, Weirich et al., 1989).*** Its expression on neutrophil cell surface, however, increases substantially within a few minutes after the cell comes into contact with bacteria or endotoxins ***(Simms and, D'Amico 1995).*** This unique property enables CD11b to be used as a potential early warning marker for detection of bacterial infection. Thus, this specific marker could potentially be used for identifying life-threatening infection in preterm infants.

In this study, we attempted to determine the CD11b as one immunological marker for early detection of late onset neonatal sepsis in Extreme Low Birth Weight (ELBW) infants.