Phagocytosis kinetic during neonatal sepsis.

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Background & Objective

Neonatal sepsis is the third cause of death in neonatal population. Host specific recognition of bacteria is one of the mechanism that activates immune system. In preterm and term infants phagocytosis and opsonophagocytosis dysfunction increase the risk of septic shock. Data on this regulation during sepsis are insufficient. The main objective of our work is to study phagocytosis evolution of neutrophils and monocytes during sepsis initiation and to evaluate the kinetics of opsonophagocytosis function in neonates during sepsis.

Methods

Phagocytosis test was performed on whole blood of neonates (term and preterm < 36 wks GA) during sepsis. The results were compared to cord blood from healthy newborns. Monocytes and neutrophils phagocytosis of *Escherichia coli* (EC) phagocytosis index (IP) were measured using cytometric flow with characterization of surface activation marker expression.

Results

EC Phagocytosis is decreased in healthy and septic low birth weight than in > 1500 gr neonatal population. EC phagocytosis is decreased in non survivors septic newborn than in survivors septic newborn. EC kinetic of phagocytosis is different according to bacteria type during neonatal sepsis.

Conclusion

Phagocytosis during sepsis in neonates seems to depend on birth weight and to increase in survivors neonatal septic population.