33.00

LEUKOCYTE ACTIVITY MARKERS IN NEONATAL SEPSIS

B. Derfalvi[1], E. Pallinger[2], A. Dely[3], A. Falus[4]
[1]1st Department of Pediatrics [2]Molecular Immunology Research Group [3]Nd Department of Gynecologyy
[4]Department of Genetics, Cell- and Immunobiology, Semmelweis University, Budapest, Hungary
derfalv@gyer1.sote.hu

Background. Sepsis is associated with 10% of cases of neonatal death, which can be explained by the immaturity of the immune functions. The objective of this study was to assess the contribution of leukocyte cell surface activity markers, belonging to the adaptive and innate immunity as well, to the evidence of immune activation of neonatal infection. Methods. Peripheral leucocytes of term and preterm, septic (n=26) and healthy (n=34) newborn infants was analysed by flow cytometry using leukocyte population and CD25, CD95 and HLA-DR markers. Infected patient data were related to those of controls; moreover patient data between term and preterm neonates were compared. Results. In sepsis the number of lymphocyte (p=0.002) and monocytes (p=0.04) are decreased, the number of granulocyte is increased (p=0.01). The expression of the HLA-DR is decreased on monocytes (p=0.008) in infection. In sepsis compared to the healthy group the CD95 (Fas) (p=0.03), the CD25 and HLA-DR (p=0.001) expression is elevated on lymphocytes when examining the patients under 1500g. In the septic group the gender, and the type of infective agent (Gram- or Gram+ bacteria) did not influence the results. The lower number of T-lymphocytes, lower expression of CD25 (p=0.01) on lymphocytes and the HLA-DR (p=0.02) on monocytes are associated with higher mortality in sepsis. Conclusion. Septic very low birth weight infants are also able to lymphocyte activation, however low expression of IL-2 receptor, HLA-DR molecules and higher expression of FAS on PBMC are bad prognostic signs.