



Dendritic cells in childhood sepsis

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Abstract:

Purpose: Our aim was to investigate the level and the maturation status of dendritic cells (DCs) in pediatric patients with sepsis and its relation to prognosis. **Materials and methods:** The study included 16 children with sepsis, 24 children with complicated sepsis, and 40 healthy control children. The patients were investigated within 24 hours of intensive care unit admission and after 28 days. Flow cytometric detection of DCs was done. **Results:** Within 24 hours, the levels of both plasmoid DCs and monocytoïd DCs and the expression of CD86 and CD83 on DCs were significantly lower in patients than in controls, and the difference was marked in patients with complicated sepsis. The amount of CD86 and CD83 per cell was significantly lower in patients with complicated sepsis. The baseline numbers of monocytoïd DCs and plasmoid DCs were higher in the survival patients than in nonsurvival patients. In addition, the expression of CD86 and CD83 on the entire DCs was significantly higher in the survival patients with sepsis. **Conclusion:** Sepsis is associated with reduced level of DCs and decreases their maturation. The estimation of DCs number and maturation state may be used as prognostic makers of sepsis.

Keywords:

Dendritic cells; Flow cytometry; Sepsis; CD86; CD83

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