

CORRELATION OF IL-6, C-REACTIVE PROTEIN, PROCALCITONIN AND NOVEL INFLAMMATORY CYTOKINES IN CHILDREN WITH SEPSIS

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Background and aims: Sepsis is one of the leading causes of death in children; being 7,8% among hospitalized healthy children. The most important factor of improving survival is early diagnostics. The aim was to reveal correlation of IL-6, C-reactive protein, procalcitonin and inflammatory cytokines to confirm their diagnostic value.

Materials and methods: In this prospective study (1.10.2010 - 1.10.2011) we included patients with SIRS and sepsis, based on the International Consensus Conference (2002) criteria. Levels of IL-6, CRP, procalcitonin, and experimental inflammatory cytokine panels were measured (Luminex-200, Millipore) at inclusion, after 24 hours, and on the day of discharge.

Results: In total, 24 patients were included. At the admission strong correlation was seen between IL-6 and IL-1 β ($r=0,67$, $p=0,016$), IL-1ra ($r=0,87$; $p< 0,001$). After 24 hours positive moderate correlation was seen IL-6 and IL-10 ($r=0,59$; $p=0,04$); IL-6 ($r=0,68$; $p=0,014$); IL-6 ($r=0,73$; $p=0,007$); IL-6 ($r=0,70$; $p=0,012$), IL-6 ($r=0,69$; $p=0,014$), moderate negative correlation was seen between procalcitonin and IP-10 ($r=-0,59$; $p=0,045$). On the day of discharge found positive moderate correlations between CRP and GM-CSF ($r=0,59$; $p=0,042$); IL-1 β ($r=0,75$; $p=0,005$), IL-1ra ($r=0,82$; $p=0,001$); procalcitonin and IL-1ra ($r=0,67$; $p=0,018$); sICAM-1 ($r=0,76$; $p=0,004$); negative moderate correlation was found between IL-6 and Eotaxin ($r= -0,65$; $p=0,022$).

Conclusions: IL-6 shown the best positive correlation rates with novel diagnostic inflammatory cytokines at the time of admission, whereas CRP and procalcitonin showed moderate correlations later, thus inflammatory cytokines can be used for early diagnostics.

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