

KOMBINASI INTERLEUKIN-6 DAN HIGH SENSITIVITY C-REACTIVE PROTEIN SEBAGAI PARAMETER DIAGNOSTIK DAN LUARAN SEPSIS PADA ANAK YANG MENDERITA SYSTEMIC INFLAMMATORY REPNONSE SYNDROME

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ABSTRAK

Latar Belakang. Sepsis salah satu penyebab kesakitan dan kematian pada anak. Sepsis diawali *Systemic Inflammatory Response Syndrome* (SIRS) yang dapat berkembang menjadi sepsis berat, syok septik, disfungsi organ, dan kematian. Kesulitan dalam mendiagnosis sepsis karena gejala klinisnya tidak khas, kultur bakteri membutuhkan waktu lebih lama (2-4 hari), tidak semua bakteri teridentifikasi, sehingga terjadi keterlambatan pengobatan, ataupun *overtreatment*. Invasi bakteri mengeluarkan mediator inflamasi seperti TNF- α , IL-6 dan CRP. IL-6 dan CRP telah diuji sebagai marker diagnostik dini sepsis. Kombinasi marker ini memiliki sensitivitas dan spesifisitas lebih baik sebagai uji diagnostik sepsis.

Tujuan. Mengetahui kombinasi IL-6 dan hs-CRP sebagai parameter diagnostik dan luaran sepsis pada anak menderita SIRS.

Metode. Penelitian potong lintang terhadap 85 anak menderita SIRS berusia 1 bulan-15 tahun, dirawat di bangsal anak RS Dr.M.Djamil Padang sejak 1 Juni-30 November 2012. Pengambilan sampel secara random blok. Pemeriksaan IL-6 dan hs-CRP dengan metode *enzyme-linked immunosorbent assay* (ELISA). Kultur bakteri darah menggunakan metode BACTEC. Analisis data menggunakan SPSS.

Hasil. Kadar serum IL-6 $\geq 12,46$ ng/ml dan hs-CRP $\geq 15,55$ ng/ml, mampu menentukan SIRS akibat infeksi bakteri. Sensitivitas dan spesifisitas IL-6 adalah 78,8% dan 98,1%. Sensitivitas dan spesifisitas hs-CRP adalah 98% dan 38,5%. Sensitivitas dan spesifisitas kombinasi IL-6 dan hs-CRP adalah 75,8% dan 98,1%. IL-6 meningkat pada sepsis dan meninggal. Hs-CRP meningkat pada keadaan sepsis berat ($p < 0,05$).

Kesimpulan. Sensitivitas dan spesifisitas kombinasi IL-6 dan hs-CRP cukup baik, namun sensitivitas dan spesifisitas IL-6 lebih baik. IL-6 saja dapat digunakan sebagai diagnostik dini dan luaran sepsis pada anak menderita SIRS.

Kata kunci: IL-6, hs-CRP, SIRS, sepsis, anak

COMBINATION BETWEEN INTERLEUKIN-6 AND HIGH SENSITIVITY-C-REACTIVE PROTEIN AS DIAGNOSTIC PARAMETER AND SEPTIC OUTCOME IN SYSTEMIC INFLAMMATORY RESPONSE SYNDROME CHILDREN

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ABSTRACT

Background. Septic is one cause of morbidity and mortality in children. Septic initially developed systemic inflammatory response syndrome and turned into severe septic, septic shock, organ dysfunction and death. Difficulties in diagnoses caused by unspecified symptoms, long time waiting microbiological analysis (2-4 days) and not all bacteria can be identified. It caused delaying treatment or overtreatment. Bacterial invasion released inflammatory mediators such as TNF- α , IL-6 and CRP. IL-6 and CRP has accuracy as a diagnostic marker of sepsis and combination of both gave better values.

Purpose. To determine combination of IL-6 and hs-CRP as diagnostic parameters and outcome of sepsis in children with SIRS.

Method. A cross sectional study on 85 children aged 1 month to 15 years, who were treated with SIRS in pediatric ward Dr.M.Djamil Hospital, Padang from 1 June to 30 November 2012. Randomize sample block. Examination of IL-6 and hs-CRP were performed by enzyme-linked immunosorbent assay (ELISA). Blood bacterial culture using BACTEC. Data were analyzed using SPSS.

Results. Serum IL-6 levels are ≥ 12.46 ng/ml and serum hs-CRP levels ≥ 15.55 g/ml, are cut off point of sepsis due to bacterial infection in children. Sensitivity and specificity of IL-6 was 78.8% and 98.1%, respectively, hs-CRP was 98% and 38.5%, respectively, and combination IL-6 and hs-CRP was 75.8% and 98.1%, respectively.

Conclusion. Sensitivity and specificity of combination IL-6 and hs-CRP is high, and IL-6 is higher. IL-6 alone can be used as early diagnostic and outcome sepsis in children with SIRS.

Keywords : Interleukin-6, hs-CRP, SIRS, sepsis, children