

FAKTOR PREDIKTOR KEJADIAN BAKTEREMIA PADA BAYI DAN ANAK (USIA 1 BULAN – 3 TAHUN)

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INTISARI

Latar belakang: Penyakit infeksi merupakan penyebab utama tingginya angka mortalitas dan morbiditas di dunia. Diagnosis infeksi bakteri dapat ditegakkan secara pasti dengan pemeriksaan kultur. Pada praktik sehari-hari, hal ini jarang dikerjakan karena hasil pemeriksaan laboratorium cenderung lambat. Oleh karena itu, adanya suatu penanda yang dapat menggambarkan adanya infeksi bakteri akut pada awal perjalanan penyakit dapat sangat membantu mengarahkan rencana terapi, mengurangi penggunaan antibiotik yang tidak rasional, serta memperbaiki outcome jangka panjang.

Tujuan: Untuk menentukan indikator kejadian bakteremia pada anak usia 1 bulan – 3 tahun.

Metode: Studi *cross sectional* dilakukan dengan data sekunder secara *nonprobability sampling* dari data *epidemiology report* instalasi laboratorium klinik RSUP Dr. Sardjito pada anak berusia 1 bulan – 3 tahun yang dilakukan kultur pada tahun 2017. Sebanyak 37 sampel bakteremia dianggap sebagai kelompok kasus dan 36 sampel tanpa bakteremia sebagai kelompok kontrol. Variabel leukositosis, neutrofilia, trombositopenia, suhu tubuh $\geq 39^{\circ}\text{C}$, lama demam ≥ 4 hari, kondisi imunokompromasi dan status gizi di bawah normal dianalisis dan dipresentasikan sebagai *relative risk* (RR) dan *confidence interval* 95% (CI 95%).

Hasil: Pada penelitian ini dianalisis sebanyak 73 sampel, sebanyak 50,7% (37/73) merupakan sampel dengan bakteremia. Hasil analisis bivariat menunjukkan bahwa leukositosis (RR=10,18; 95% CI: 3,12-32,32), neutrofilia (RR=10,18; 95% CI: 3,12-32,32), serta trombositopenia (RR=5,88; 95% CI: 1,98-17,48) secara bermakna sebagai indikator kejadian bakteremia. Analisis multivariat menunjukkan bahwa neutrofilia (RR=6,05; 95% CI: 1,00-36,49) dan adanya trombositopenia (RR=6,53; 95% CI: 1,66-25,65) terbukti bermakna secara statistik sebagai indikator kejadian bakteremia. Leukositosis, suhu tubuh $\geq 39^{\circ}\text{C}$, lama demam ≥ 4 hari, kondisi imunokompromasi dan status gizi di bawah normal bukan merupakan indikator kejadian bakteremia

Kesimpulan: Faktor prediktor kejadian bakteremia pada anak usia 1 bulan – 3 tahun adalah neutrofilia dan trombositopenia.

Kata kunci: bakteremia, faktor prediktor, bayi, anak

PREDICTORS OF BACTEREMIA IN INFANT AND CHILDREN (1 MONTH – 3 YEARS OF AGE)

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ABSTRACT

Background: Infectious diseases are a major cause of high mortality and morbidity in the world. The diagnosis of bacterial infection can be confirmed with culture examination. In everyday practice, this is rarely done because the results of laboratory tests tend to be slow. Therefore, the presence of a marker that can describe the presence of acute bacterial infection at the early onset of the disease can greatly help direct the plan of therapy, reduce irrational use of antibiotics, and improve long-term outcomes.

Objective: To determine the indicator of the incidence of bacteraemia in children aged 1 month - 3 years.

Method: The cross sectional study was conducted with secondary data on a non-probability sampling basis from epidemiology data report on the clinical laboratory installation of RSUP Dr. Sardjito in children aged 1 month - 3 years who were cultured in 2017. A total of 37 samples of bacteraemia were considered as a case group and 36 samples without bacteraemia as a control group. The variables of leucocytosis, neutrophilia, thrombocytopenia, body temperature $\geq 39^{\circ}\text{C}$, duration of fever ≥ 4 days, immunocompromised condition and under normal nutritional status were analysed and presented as relative risk (RR) and 95% confidence interval (95% CI).

Result: In this study, 73 samples were analysed, 50.7% (37/73) were samples with bacteraemia. The results of bivariate analysis showed that leucocytosis (RR = 10.18; 95% CI: 3.12-32.32), neutrophilia (RR = 10.18; 95% CI: 3.12-32.32), and thrombocytopenia (RR = 5.88; 95% CI: 1.98-17.48) significantly as an indicator of the incidence of bacteraemia. Multivariate analysis showed that neutrophilia (RR = 6.05; 95% CI: 1.00-36.49) and the presence of thrombocytopenia (RR = 6.53; 95% CI: 1.66-25.65) proved to be statistically significant as an indicator of the incidence of bacteraemia. Leucocytosis, body temperature $\geq 39^{\circ}\text{C}$, duration of fever ≥ 4 days, immunocompromised condition and under-normal nutritional status are not indicators of the incidence of bacteraemia.

Conclusion: The predictors of the incidence of bacteremia in infant and children aged 1 month - 3 years are neutrophilia and thrombocytopenia.

Keywords: bacteremia, predictor, infant, children