

## Peran rasio neutrofil limfosit dan rasio I/T dalam diagnosis sepsis neonatorum awitan lambat pada bayi kurang bulan >30-36 Minggu = Role of neutrophil to lymphocyte ratio and I/T Ratio in diagnose late-onset neonatal sepsis in preterm infant >30-36 weeks

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### Abstrak

Sepsis neonatorum awitan lambat (SNAL) masih menjadi penyebab penting kematian dan kesakitan pada bayi kurang bulan. Diagnosis yang cepat penting untuk penatalaksanaan yang sesuai. Diperlukan alat diagnostik yang sederhana, tidak mahal dan cepat hasilnya untuk mendiagnosis SNAL. Tujuan penelitian ini adalah untuk mendapatkan nilai diagnostik rasio neutrofil limfosit (RNL) dan kombinasi RNL dan rasio I/T untuk mendiagnosis SNAL. Data penelitian cross sectional ini diambil dari rekam medis pasien bulan januari 2018-Desember 2019 di Divisi Neonatologi Rumah Sakit Cipto Mangunkusumo. Subyek penelitian adalah bayi kurang bulan >30-36 minggu, berusia 7-28 hari dengan klinis sepsis. Dari kultur darah, neonatus dibagi menjadi 2 kelompok, yaitu: proven sepsis dan unproven sepsis. Rasio neutrofil limfosit dihitung dari data hitung jenis limfosit. Rasio I/T didapat dari rekam medis. Dari semua 126 subyek penelitian 70 termasuk kelompok proven sepsis dan 56 unproven sepsis. Analisis kurva Receiver operating characteristic RNL didapatkan area under the curve 0.953. Dengan cut off RNL 1.785 didapatkan sensitivitas 78,57%, spesifisitas 92,86%, nilai dugaan positif (NDP) 93,22% dan nilai duga negative (NDN) 77,61%. Dengan titik potong rasio I/T > 0,2, didapatkan sensitivitas 55,70 %, spesifitas 83,70%, NDP 81,25% dan NDN 60,26%. Gabungan RNL dan rasio I/T meningkatkan sensitivitas dan NDP rasio I/T berturut-turut menjadi 90% dan 84,44%. Sebagai kesimpulan, RNL dengan titik potong 1,785 mempunyai nilai diagnostik yang baik untuk mendiagnosis SNAL. Kombinasi RNL dan rasio I/T akan meningkatkan nilai diagnostik rasio I/T.

.....Late-onset neonatal sepsis (LOS) remains an important cause of death and morbidity among preterm infants. Early diagnostic is important for appropriate management. The simple, inexpensive, and rapid diagnostic tool is required to diagnose LOS. The objective of this study is assesing diagnostic value of NLR and combination of NLR and I/T ratio for diagnosis LOS. The data for this retrospective cross-sectional study was collected from medical record from January 2018 to December 2019 at Neonatology Division Cipto Mangunkusumo Hospital. Preterm infants with >30 -36 gestational weeks, 7-28 days of postnatal age and clinically sepsis were eligible for this study. According to the result of blood cultures, all enrolled infant were classified into 2 groups: proven sepsis and unproven sepsis. The NLR was calculated as the ratio of neutrophil count to lymphocyte count. Immature-to-total neutrophil ratio was taken from medical record. A total of 126 subjects were involved: 70 proven sepsis and 56 unproven sepsis. Receiver operating curve analysis for NLR calculated and area under the curve of NLR corresponded to 0.953. Using a cut off point of 1.785 for NLR, the sensitivity was 78,57%, the specificity was 92,86%, positive predictive value (PPV) 93,22% and negative predictive value (NPV) 77,61%. Using cut off > 0,2, I/T ratio has sensitivity 55,70 %, specificity 83,70%, PPV 81,25% and NPV 60,26%. The combination NLR and ratio I/T increased sensitivity and PPV of ratio I/T became 90% and 84,44%, respectively. As conclusion The NLR with cut off 1,785 has good diagnostic value for SNAL. Combination NLR and I/T ratio can increase diagnostic value of

I/T ratio.