

INTISARI

Latar belakang: *Pediatric Acute Respiratory Distress Syndrome (PARDS)* merupakan kondisi dengan dasar inflamasi yang memiliki mortalitas dan morbiditas tinggi di negara berkembang. Diperlukan prediktor untuk memprediksi luaran PARDS berupa mortalitas dan pemanjangan durasi ventilasi mekanik yang murah dan bisa diakses disemua fasilitas kesehatan terutama di fasilitas kesehatan perifer. *Neutrophil to Lymphocyte Ratio (NLR)*, *Platelet to Lymphocyte Ratio (PLR)* dan eosinopenia diketahui menjadi biomarker pada beberapa kondisi inflamasi.

Tujuan: Mengetahui peran NLR, PLR dan eosinopenia sebagai prediktor luaran PARDS.

Metode: Penelitian dilakukan secara kohort retrospektif pada pasien PARDS yang dirawat di PICU RSUP Dr. Sardjito Yogyakarta pada Januari 2017–Desember 2022. Sampel diambil secara *consecutive sampling* dengan kriteria inklusi dan eksklusi. Analisis dilakukan menggunakan analisis bivariat dengan uji *Chi square (X²)* atau uji *Fisher's exact* dan multivariat regresi logistik. Hasil antara variabel dinyatakan dengan *odd ratio (OR)* dan interval kepercayaan 95% dengan tingkat kemaknaan statistik $p < 0,05$. Nilai NLR, PLR dan eosinophil berdasarkan interval referensi menurut umur dan jenis kelamin.

Hasil: Dari 192 PARDS sesuai ICD 10 (J.80), 72 pasien memenuhi kriteria untuk diambil sebagai subyek penelitian. Dari analisis bivariat didapatkan bahwa nilai NLR yang tinggi ($p=0,034$) dan eosinopenia ($p=0,029$) memiliki hubungan bermakna terhadap luaran mortalitas PARDS. Selanjutnya analisis multivariat menunjukkan baik nilai NLR tinggi (OR 3,61; CI 95% 1,06-12,32) maupun eosinopenia (OR 6,09; CI 95% 1,17-31,8) keduanya merupakan prediktor luaran mortalitas PARDS.

Kesimpulan: Nilai NLR tinggi dan eosinopenia adalah prediktor luaran mortalitas pada PARDS.

Kata kunci: PARDS, mortalitas, ventilasi mekanik, NLR, PLR, eosinopenia

ABSTRACT

Background: *Pediatric Acute Respiratory Distress Syndrome* (PARDS) is an inflammatory based condition that continues to be a significant problem with high mortality and morbidity rates in developing countries. Predictors are needed to forecast outcomes of PARDS, such as mortality and prolonged mechanical ventilation duration, which are cost-effective, routinely performed, and accessible in all healthcare facilities, especially in peripheral healthcare facilities. *Neutrophil to Lymphocyte Ratio* (NLR), *Platelet to Lymphocyte Ratio* (PLR) are known to be biomarkers in some inflammatory diseases.

Objective: To determine the role of NLR, PLR, and eosinopenia as predictors of PARDS outcomes.

Methods: A retrospective cohort study was conducted on PARDS patients treated in the PICU of Dr. Sardjito Hospital in Yogyakarta from January 2017 to December 2022. Samples were collected using consecutive sampling with inclusion and exclusion criteria. The analysis was performed using bivariate analysis with the Chi-square (X²) test or Fisher's exact test and multivariate logistic regression. Results between variables were expressed as odds ratios (OR) with a 95% confidence interval, with a statistical significance level of $p < 0.05$. NLR, PLR and eosinophil values are based on reference intervals according to age and sex.

Results: Out of 192 PARDS cases according to ICD 10 (J.80), 72 patients met the criteria to be included as research subjects. From bivariate analysis showed that high NLR ($p=0.034$) and eosinopenia ($p=0.029$) had a significant association with the outcome of PARDS mortality. Furthermore, multivariate analysis indicated that both high NLR (OR 3.61; 95% CI 1.06-12.32) and eosinopenia (OR 6.09; 95% CI 1.17-31.8) were predictors of PARDS mortality.

Conclusion: High NLR value and eosinopenia are predictors of mortality outcomes in PARDS.

Keywords: PARDS, mortality, mechanical ventilation, NLR, PLR, eosinopenia