

## INTISARI

**Latar Belakang:** Diare pasca kemoterapi pada pasien *Acute Lymphoblastic Leukemia* (ALL) anak cukup sering terjadi dan dapat menyebabkan permasalahan kesehatan yang dapat mengancam jiwa. Diare pada pasien keganasan yang disebabkan dapat berpengaruh dalam penurunan dosis kemoterapi, penundaan bahkan pemberhentian kemoterapi. Faktor yang dapat menyebabkan diare pasca kemoterapi antara lain adalah inflamasi pada usus yang disebabkan oleh obat-obatan kemoterapi. *Fecal calprotectin* merupakan protein sitosol yang dikeluarkan oleh neutrofil yang bermigrasi ke usus dan dapat digunakan sebagai penanda inflamasi lokal pada usus. Terdapat penanda inflamasi yang lain yaitu *Neutrophil to Lymphocyte Ratio* (NLR). Peningkatan NLR merupakan indikator inflamasi sistemik yang sering dipakai dalam penegakkan diagnosis maupun prognosis suatu inflamasi usus. Hingga saat ini belum ada penelitian mengenai korelasi NLR dan kadar *fecal calprotectin* pada diare pasien ALL anak pasca kemoterapi.

**Tujuan:**

Untuk mengevaluasi korelasi NLR dengan kadar *fecal calprotectin* pada diare pasien ALL anak pasca kemoterapi di RSUP Dr. Sardjito.

**Metode:**

Penelitian ini merupakan penelitian observasional analitik dengan pendekatan potong lintang. Penelitian ini melibatkan pasien terdiagnosis ALL anak dengan diare pasca kemoterapi yang diperiksa darah lengkap untuk data NLR dan diambil sampel feses dalam 24 jam pertama pada episode rawat inap maupun rawat jalan di RSUP Dr. Sardjito untuk pemeriksaan *fecal calprotectin*. Analisis data secara deskriptif, ditampilkan dalam median (minimal-maksimal). Data kategorikal disajikan dalam proporsi. Data NLR dan *fecal calprotectin* dianalisis secara statistik dengan uji korelasi *Spearman* nilai  $p < 0,05$  dianggap signifikan secara statistik. Data dianalisis menggunakan perangkat lunak SPSS 28.

**Hasil:** Didapatkan 50 subjek penelitian, terdiri dari pasien ALL anak dengan diare pasca kemoterapi pada usia 5(1-15) tahun, 56% laki-laki dan 44% perempuan. Didapatkan median NLR 2,17 (0,31-13,66) dan kadar *fecal calprotectin* 97,95 (4,4-1000) mg/L. Pada penelitian ini didapatkan koefisien korelasi antara NLR dan kadar *fecal calprotectin* sebesar  $r = -0,048$ ;  $p = 0,742$ .

**Simpulan:** Tidak terdapat korelasi yang bermakna secara statistik antara kadar *fecal calprotectin* dan NLR pada diare pasien ALL anak pasca kemoterapi di RSUP Dr. Sardjito Yogyakarta.

**Kata Kunci:** diare pasca kemoterapi, ALL, *Neutrophil to Lymphocyte Ratio* (NLR), *fecal calprotectin*

## ABSTRACT

**Background:** Post-chemotherapy diarrhea in pediatric Acute Lymphoblastic Leukemia (ALL) patients is quite common and can cause life-threatening health problems. Diarrhea caused by malignancy in patients can result in reducing chemotherapy doses, delaying or even stopping chemotherapy. Factors that can cause post-chemotherapy diarrhea include inflammation of the intestines caused by chemotherapy drugs. Fecal calprotectin is a cytosolic protein released by neutrophils that migrate to the intestine and can be used as a marker of local inflammation in the intestine. There is another inflammatory marker, namely the Neutrophil to Lymphocyte Ratio (NLR). An increase in NLR is an indicator of systemic inflammation that is often used in establishing the diagnosis and prognosis of intestinal inflammation. Until now there has been no research regarding the correlation of NLR and fecal calprotectin levels in pediatric ALL patients with post-chemotherapy diarrhea.

**Objective:** To evaluate the correlation between NLR and fecal calprotectin levels in pediatric ALL patients with post-chemotherapy diarrhea at RSUP Dr. Sardjito.

**Method:** This research is an analytical observational study with a cross-sectional approach. This study involved patients diagnosed with pediatric ALL with post-chemotherapy diarrhea who had complete blood tests for NLR data and stool samples taken within the first 24 hours during inpatient and outpatient episodes at RSUP Dr. Sardjito for fecal calprotectin examination. Descriptive data analysis, displayed in median (min-max). Categorical data are presented in proportions. NLR and fecal calprotectin data were analyzed statistically using the Spearman correlation test, a p value  $<0,05$  was considered statistically significant. Data were analyzed using SPSS 28 software.

**Result :** There were 50 research subjects, consisting of pediatric ALL patients with post-chemotherapy diarrhea at the age of 5 (1-15) years, 56% male and 44% female. The median NLR was 21,7 (0,31-13,66) and fecal calprotectin levels were 97,95 (4,4-1000) mg/L. In this study, the correlation coefficient between NLR and fecal calprotectin levels was  $r=-0,048$ ;  $p=0,742$ .

**Conclusion:** There is no statistically significant correlation between fecal calprotectin levels and NLR in diarrhea in pediatric ALL patients after chemotherapy at RSUP Dr. Sardjito Yogyakarta.

**Keywords:** post-chemotherapy diarrhea, ALL, Neutrophil to Lymphocyte Ratio (NLR) , fecal calprotectin