INTISARI

Latar belakang: Pasien keganasan hematologi sering mengalami trombositopenia yang membutuhkan transfusi trombosit selama perjalanan penyakit dan pengobatan. Praktik transfusi trombosit telah berkembang seiring penggunaan kemoterapi. *Corrected Count Increment* (CCI) adalah penanda yang paling banyak digunakan untuk mengukur efektifitas transfusi trombosit, tetapi aplikasi klinis memiliki beberapa kendala. Trombosit imatur dapat dihitung menggunakan alat hematologi otomatis menggunakan parameter yang disebut *Immature Platelet Fraction* (IPF). Manfaat parameter IPF pada pasien keganasan hematologi, belum banyak diteliti.

Tujuan: Menilai korelasi antara delta *Immature Platelet Fraction* (IPF) dan *Corrected Count Increment* (CCI) pada pasien dewasa dengan keganasan hematologi di RSUP Dr. Sardjito Yogyakarta

Metode: Penelitian ini merupakan penelitian *cross sectional* dengan melakukan pemeriksaan IPF pra dan pasca transfusi menggunakan alat hematologi Sysmex XN 550. Delta IPF dinilai dari IPF pra dikurangi pasca transfusi. Keberhasilan transfusi tromboferesis dinilai menggunakan *Corrected Count Increment* (CCI) satu jam pasca transfusi tromboferesis (TA). Data karakteristik subjek penelitian ditampilkan secara deskriptif dalam rerata dan simpangan baku apabila distribusi data normal atau median dan nilai minimum-maksimum apabila distribusi data tidak normal. Uji normalitas data subjek penelitian dilakukan menggunakan uji *Shapirowilk*. Uji korelasi menggunakan *Spearman*. Analisis data penelitian menggunakan SPSS versi 26.

Hasil: Penelitian ini melibatkan 25 subjek, dengan persentase pria 18 subjek (72%) dan wanita 7 subjek (28%). Jenis keganasan hematologi paling banyak adalah *Acute Myeloid Leukemia* (AML) sebesar 13 subjek (52%). Nilai median jumlah trombosit pra transfusi 12 (2-43) $x10^3/\mu L$ dan pasca transfusi 38 (6-84) $x10^3/\mu L$. Rerata IPF pra transfusi 17,43 (±8,7) %, nilai median IPF pasca transfusi 9,8 (0,8-71,30) % dan rerata delta IPF 3,8(±14,54) %. Karakteristik klinis paling banyak adalah perdarahan dan splenomegali, masing-masing 6 subjek (24%) dengan tingkat keberhasilan transfusi tromboferesis mencapai 60%. Penelitian ini menunjukkan adanya korelasi positif antara delta IPF dengan nilai CCI, dengan nilai koefisien korelasi (r) sebesar 0,49 (korelasi sedang), dan bermakna secara statistik (p=0,013).

Simpulan: Penelitian ini menunjukkan terdapat korelasi positif dengan kekuatan sedang antara delta IPF dengan nilai CCI.

Kata kunci: Keganasan hematologi, trombositopenia, *Immature Platelet Fraction* (IPF), transfusi, tromboferesis.

ABSTRACT

Background: Patients with haematological malignancies often have thrombocytopenia, requiring platelet transfusions during their disease and treatment. The practice of platelet transfusion has grown with the use of chemotherapy. Corrected Count Increment (CCI) is the most widely used to measure the effectivity of platelet transfusion, but its clinical application has several obstacles. Immature platelets can be counted using an automated hematology tool using a parameter called Immature Platelet Fraction (IPF). The benefit of evaluating these parameters in patients with haematological malignancies has not been widely studied.

Objective: Assessing the correlation between delta Immature Platelet Fraction (IPF) and Corrected Count Increment (CCI) in adult patients with hematological malignancies at RSUP Dr. Sardjito Yogyakarta

Methods: This study is a cross sectional study. IPF pre and post transfusion is examined using Sysmex XN550. Delta IPF was counted from IPF pra transfusi – IPF pasca transfusi. Corrected Count Increment counted 1 hour after transfusion of Thrombopheresis (TA). Characteristic data of research subjects are displayed descriptively. The normality of the research subject data was carried out using the Shapirowilk test. Correlation test using Spearman. Analysis of research data using SPSS version 26. The p value is considered significant if $p < 0.05$.

Results: This study involved 31 subjects, with the proportion of male 19 subjects (72%) and female 12 subjects (28%). The most common type of hematological malignancy was Acute Myeloid Leukemia (AML) as many as 13 subjects (52%). The median value of pre transfusion platelet count was 12 (2-43) $x10^3/\mu L$ and post transfusion 38 (6-84) $x10^3/\mu L$. The mean pre transfusion IPF was 17.43 (±8.7) %, the median post transfusion IPF was 9.8 (0.8-71.30) % and the mean delta IPF was 3.8 (±14.54) %. The highest incidence of clinical characteristic were splenomegaly and bleeding, can be found each in 9 subjects (24%). The success of thrombopheresis transfusion can be found in 16 subjects (60%). This study showed a positive correlation between delta IPF and CCI values, with a correlation coefficient (r) of 0.49 (moderate correlation), and statistically significant (p=0.013).

Conclusion: This study showed a moderately positive correlation between delta IPF and CCI values.

Keywords: Hematological malignancy, trombocytopenia, Immature Platelet Fraction (IPF), transfusion, thrombopheresis.