

Tesis

**HUBUNGAN HASIL *DIRECT COOMB'S TEST* DENGAN KEJADIAN HEMOLISIS
PADA PASIEN HEMATO-ONKOLOGI**



Diajukan oleh :

Tri Amelia Sari

NIM. 1950307305

**Pembimbing I
Pembimbing II**

: Dr. dr. Zelly Dia Rofinda, Sp.PK (K)

: dr. Desiekawati Sp.PK

**PROGRAM STUDI PATOLOGI KLINIS PROGRAM SPESIALIS
FAKULTAS KEDOKTERAN UNAND/RSUP DR. M. DJAMIL**

PADANG

2023

HUBUNGAN HASIL *DIRECT COOMB'S TEST* DENGAN KEJADIAN HEMOLISIS PADA PASIEN HEMATO-ONKOLOGI

ABSTRAK

Latar Belakang: Kelainan hemato-onkologi dapat disertai anemia hemolitik autoimun (AIHA) akibat adanya faktor genetik dan lingkungan yang mengganggu toleransi sentral dan perifer. Kombinasi klinis dan pemeriksaan laboratorium diperlukan untuk menegakkan diagnosis AIHA. *Direct coomb's test* (DCT) merupakan pemeriksaan untuk mendeteksi autoantibodi pada sel eritrosit. Keadaan hemolisis dapat diketahui melalui pemeriksaan *marker* hemolisis seperti hemoglobin, retikulosit, bilirubin indirek serum dan *lactate dehidrogenase* (LDH). Penelitian ini bertujuan untuk mengetahui hubungan hasil DCT dengan kejadian hemolisis pada pasien hemato-onkologi.

Metode: Penelitian analitik dengan rancangan potong lintang dilakukan terhadap 78 pasien hemato-onkologi dewasa di RSUP Dr. M. Djamil Padang mulai Juli 2022 hingga Januari 2023. Diagnosis hemato-onkologi berdasarkan kriteria diagnosis dari klinisi. *Direct coomb's test* dilakukan melalui metode *gel test*. *Marker* hemolisis yang terdiri dari hemoglobin, retikulosit, bilirubin indirek serum, dan LDH dilakukan menggunakan alat hematologi dan kimia klinik otomatis. Data dianalisis dengan uji *Fisher exact*, bermakna jika $p < 0,05$.

Hasil: Median umur subjek penelitian 53 tahun, rentang (18-76) tahun. Subjek penelitian terbanyak adalah perempuan (44 orang, 56,4%). Persentase hasil DCT positif adalah 33,33% dan kejadian hemolisis sebesar 5,1%. Kelompok hemolisis positif memiliki median kadar hemoglobin yang lebih rendah, median retikulosit dan median kadar LDH yang lebih tinggi dibandingkan kelompok hemolisis negatif. Uji statistik menunjukkan perbedaan yang bermakna antara hasil DCT positif dengan kejadian hemolisis ($p = 0,01$).

Simpulan: Terdapat hubungan antara hasil DCT dengan kejadian hemolisis.

Kata Kunci: hemato-onkologi, AIHA, DCT, kejadian hemolisis.

ASSOCIATION BETWEEN DIRECT COOMBS TEST RESULTS AND HEMOLYSIS IN HEMATO-ONCOLOGY PATIENTS

ABSTRACT

Introduction: Haemato-oncological disorders can be accompanied by autoimmune hemolytic anemia (AIHA) due to genetic and environmental factors that interfere with central and peripheral tolerance. A combination of clinical and laboratory tests is required to establish the diagnosis of AIHA. Direct Coomb's test (DCT) is an examination to detect autoantibodies in erythrocyte cells. The state of hemolysis can be identified by examining markers of hemolysis such as hemoglobin, reticulocytes, serum indirect bilirubin and lactate dehydrogenase (LDH). This study aims to determine the results of DCT with the incidence of hemolysis in hemato-oncology patients.

Methods: A cross-sectional analytic study was conducted on 78 adult hemato-oncology patients at Dr. M. Djamil Padang Hospital from July 2022 to January 2023. The hemato-oncology diagnosis of each patient was based on the diagnostic criteria of the clinician in charge. The direct coomb's test was carried out using the gel test method. Hemolysis markers that consist of hemoglobin, reticulocytes, serum indirect bilirubin and LDH were performed using automated hematology and clinical chemistry assays. Data were analyzed by Fisher-exact test, significant if $p < 0.05$.

Results: The median age of the study subjects was 53 years, age range 18 to 76 years. Most of the research subjects were women (44 people, 56.4%). The percentage of positive DCT results was 33.33% and the incidence of hemolysis was 5.1%. The positive hemolysis group had a lower median hemoglobin level, and median reticulocytes, median LDH level, which were higher than the negative hemolysis group. Statistical test showed a significant difference between the DCT positivity and hemolysis ($p = 0.01$).

Conclusion: There is an association between DCT results and hemolysis events.

Keywords: hemato-oncology, AIHA, DCT, hemolysis events.