

HUBUNGAN ANTARA KADAR FERITIN SERUM DAN NILAI NEUTROPHIL LYMPHOCYTE RATIO DENGAN KADAR GLUKOSA DARAH PUASA PADA PASIEN TALASEMIA MAYOR DEWASA

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ABSTRAK

Latar Belakang : Talasemia mayor merupakan jenis talasemia terberat dan memerlukan transfusi darah seumur hidup yang bisa menyebabkan kondisi *iron overload*. Kondisi ini dapat merusak berbagai organ, termasuk endokrin. Pemantauan glikemik melalui glukosa darah puasa dinilai lebih akurat daripada HbA1c pada pasien talasemia. Pemantauan glikemik penting dilakukan karena akumulasi zat besi dapat mengganggu metabolisme glukosa. Pemeriksaan status glikemik terkait dengan kadar feritin dan rasio neutrofil-limfosit (NLR) sebagai indikator inflamasi dan menilai risiko diabetes melitus tipe 2.

Tujuan : Membuktikan hubungan antara kadar feritin serum dan nilai *neutrophil lymphocyte ratio* dengan kadar glukosa darah puasa pada pasien talasemia mayor dewasa.

Metode : Penelitian ini dengan metode observasional analitik dengan pendekatan potong lintang, data didapatkan dari rekam medik. Analisis uji statistik 1 dilakukan uji normalitas data dengan uji *Saphiro-Wilk* dilanjutkan uji *Spearman*.

Hasil : Terdapat 36 subjek talasemia mayor dewasa yang rutin menjalani transfusi darah, memenuhi kriteria inklusi dan eksklusi. Rerata usia pasien adalah 29,94 tahun, dengan 21 pasien (58,3%) telah menerima transfusi selama lebih dari 20 tahun. Analisis menunjukkan adanya hubungan antara kadar feritin serum dan rasio neutrofil-limfosit (NLR) ($p=0,003$) dengan tingkat korelasi sedang ($r=0,486$). Tidak ditemukan hubungan antara kadar feritin serum dan glukosa darah puasa (GDP) ($p=0,958$), dan antara NLR dan GDP ($p=0,496$). Didapatkan 3 pasien dengan kadar GDP yang melebihi batas normal (>126 mg/dL).

Kesimpulan : Terdapat hubungan positif sedang antara kadar feritin serum dengan NLR. Tidak terdapat hubungan kan antara kadar feritin serum dengan kadar GDP dan antara NLR dengan kadar GDP pada pasien talasemia mayor dewasa.

Kata Kunci : Feritin Serum, *Neutrophil Lymphocyte Ratio*, Glukosa Darah Puasa, Talasemia Mayor.

ABSTRACT

Background: *Thalassemia major is the most severe type of thalassaemia and requires a lifetime of blood transfusions that can cause iron overload conditions. This condition can damage various organs, including endocrine. Glycemic monitoring through fasting blood glucose is considered more accurate than HbA1c in thalassemia patients. Glycemic monitoring is important because iron accumulation can interfere with glucose metabolism. Glycemic status checks are related to ferritin levels and neutrophil-lymphocyte ratio (NLR) as indicators of inflammation and assess the risk of type 2 diabetes mellitus. Objective: To prove the relationship between serum ferritin levels and neutrophil lymphocyte ratio values and fasting blood glucose levels in adult thalassaemia major patients. Method: This research uses an analytical observational method with a cross-section approach, data is obtained from medical records. Statistical test analysis 1 was carried out to test the normality of data with the Saphiro-Wilk test followed by the Spearman test. Result: There were 36 adult thalassaemia major subjects who routinely underwent blood transfusions, meeting the inclusion and exclusion criteria. The average age of patients was 29.94 years, with 21 patients (58.3%) having received transfusions for more than 20 years. The analysis showed that there was a relationship between serum ferritin levels and neutrophil-lymphocyte ratio (NLR) ($p=0.003$) with a moderate correlation rate ($r=0.486$). No association was found between serum ferritin levels and fasting blood glucose (GDP) ($p=0.958$), and between NLR and GDP ($p=0.496$). 3 patients were found with GDP levels that exceeded the normal limit (>126 mg/dL). Conclusion: There was a moderately positive association between serum ferritin levels and NLR. There was no relationship between serum ferritin levels and GDP levels and between NLR and GDP levels in adult thalassaemia major patients.*

Keyword: *Ferritin Serum, Neutrophil Lymphocyte Ratio, Fasting Blood Glucose, Thalassemia Major.*