ABSRACT

THE RELATIONSHIP BETWEEN HbA1c LEVELS AND BLOOD CREATININE, UREA, AND URINE ALBUMIN/CREATININE RATIOS IN PATIENTS WITH TYPE 2 DIABETES MELLITUS IN DUREN SAWIT SUB-DISTRICT EAST JAKARTA JUNE-AUGUST 2024

By

MAGHFIRLY JUNIARTI EKA SUCI

Background: In Indonesia, the incidence of diabetes mellitus (DM) ranks 7th and the complications that occur are the 3rd cause of death. From the results of Riskesdas in 2018, the most DM patients were in Jakarta Province, especially in the East Jakarta area as much as 2.2% of the population with 4,227 cases. If management is not carried out properly, complications can occur, one of the complications that often occurs is diabetic nephropathy. This study aims to determine the relationship between HbA1c as glycaemic control with blood creatinine levels, urea, and urine albumin/creatinine ratio as markers of kidney function in patients with type 2 DM.

Methods: The study used descriptive observational method with cross sectional study. Data collection was done at one time. The study subjects were 71 medical records with purposive sampling technique. Data were taken from medical records of patients with type 2 diabetes mellitus at the Sapta Mira Clinical Laboratory, East Jakarta, June-August 2024. Bivariate tests used Spearman correlation to analyse the relationship between variables.

Results: From a total sample of 71 patients, it is known that patients with type 2 diabetes mellitus are 63.4% female and 36.6% male, the age of sufferers is mostly dominated by the middle age group 73.2%, elderly 18.3%, and adults 8.5%. The results of univariate analysis showed that the mean of each DM patient variable were HbA1c level of 8.2%, blood creatinine of 0.7 mg/dL, ureum of 24 md/dL, and urine albumin/creatinine ratio of 75 mg/g. Bivariate statistical analysis obtained a positive significant relationship with a weak correlation between HbA1c levels and blood creatinine ($p = 0.048$) and ($r = 0.235$), ureum ($p = 0.001$) and ($r = 0.395$), then urine albumin/creatinine ratio ($p = 0.023$) and ($r = 0.269$).

Conclusion: There is a positive relationship with a weak correlation between HbA1c levels and blood creatinine, ureum, and urine albumin/creatinine ratios in patients with type 2 diabetes mellitus in Duren Sawit District, East Jakarta June-August 2024.

Keywords: HbA1c, Blood Creatinine, Ureum, Urine Albumin/Creatinine Ratio, Type 2 Diabetes Mellitus.

ABSTRAK

HUBUNGAN ANTARA KADAR HbA1c DENGAN KADAR KREATININ DARAH, UREUM, DAN RASIO ALBUMIN/KREATININ URIN PADA PASIEN DIABETES MELITUS TIPE 2 DI KECAMATAN DUREN SAWIT JAKARTA TIMUR JUNI-AGUSTUS 2024

Oleh

MAGHFIRLY JUNIARTI EKA SUCI

Latar Belakang: Di Indonesia kejadian diabetes melitus (DM) menempati urutan ke-7 dan komplikasi yang terjadi merupakan penyebab kematian ke-3. Dari hasil riskesdas tahun 2018, penderita DM terbanyak berada di Provinsi Jakarta terutama di wilayah Jakarta Timur sebanyak 2,2% penduduk dengan 4.227 kasus. Apabila tidak dilakukan manajemen dengan baik dapat terjadi komplikasi, salah satu komplikasi yang sering terjadi adalah nefropati diabetikum. Penelitian ini bertujuan untuk mengetahui hubungan antara HbA1c sebagai kontrol glikemik dengan kadar kreatinin darah, ureum, dan rasio albumin/kreatinin urin sebagai penanda fungsi ginjal pada pasien DM tipe 2.

Metode: Penelitian menggunakan metode observasional deskriptif dengan studi *cross sectional*. Pengumpulan data dilakukan dalam satu waktu. Subjek penelitian sebanyak 71 rekam medis dengan teknik *purposive sampling*. Data diambil dari rekam medis pasien diabetes melitus tipe 2 di Laboratorium Klinik Sapta Mira Jakarta Timur Juni-Agustus 2024. Uji bivariat menggunakan korelasi Spearman untuk menganalisis hubungan antar variabel.

Hasil: Dari total sampel 71 pasien, diketahui penderita diabetes melitus tipe 2 yaitu perempuan 63,4% dan laki-laki 36,6%, usia pengidap paling banyak didominasi kelompok usia pertengahan 73,2%, lansia 18,3%, dan dewasa 8,5%. Hasil analisis univariat, didapatkan rerata tiap variabel pasien DM yaitu kadar HbA1c 8,2%, kreatinin darah 0,7 mg/dL, ureum 24 md/dL, dan rasio albumin/kreatinin urin 75 mg/g. Analisis statistik bivariat didapatkan hubungan signifikan positif dengan korelasi lemah antara kadar HbA1c dengan kreatinin darah (p = 0,048) dan (r = 0,235), ureum (p = 0,001) dan (r = 0,395), kemudian rasio albumin/kreatinin urin (p = 0,023) dan (r = 0,269).

Kesimpulan: Terdapat hubungan positif dengan korelasi lemah antara kadar HbA1c dengan kadar kreatinin darah, ureum, dan rasio albumin/kreatinin urin pada pasien diabetes melitus tipe 2 di Kecamatan Duren Sawit Jakarta Timur Juni-Agustus 2024.

Kata Kunci: HbA1c, Kreatinin Darah, Ureum, Rasio Albumin/Kreatinin Urin, Diabetes Melitus Tipe 2.