

**GAMBARAN KADAR ASAM URAT, UREUM, DAN KREATININ  
SERUM PADA PASIEN DIABETES MELITUS TIPE 2 DI  
RUMAH SAKIT UNIVERSITAS ANDALAS  
PERIODE AGUSTUS – DESEMBER 2023**



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**2024**

## **ABSTRACT**

### ***DESCRIPTION ON SERUM URIC ACID, UREUM, AND CREATININE LEVELS IN TYPE 2 DIABETES MELLITUS PATIENTS IN RUMAH SAKIT UNIVERSITAS ANDALAS PERIOD OF AUGUST – DECEMBER 2023***

**By**

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*Elevated serum uric acid, urea, and creatinine levels due to decreased glomerular filtration rate are often observed in Type 2 Diabetes Mellitus patients who develop complications and one of the associated complication is diabetic nephropathy. Assessment of uric acid, urea, and creatinine levels are important in determining renal involvement in patients with type 2 DM. This study aims to examine serum uric acid, urea, and creatinine levels to determine the presence or absence of renal impairment in outpatients diagnosed with type 2 DM by the doctor in charge at the Rumah Sakit Universitas Andalas polyclinic for the period August - December 2023.*

*This study is an observational descriptive study using a sample of 84 patients with type 2 diabetes who meet the inclusion criteria. The results of this study showed that most type 2 DM patients were aged  $\geq 45$  years as many as 79 patients (94%), male as many as 43 patients (51.19%), and fasting blood sugar level  $\geq 100$  mg/dL as many as 80 patients (95.2%). Serum uric acid, ureum, and creatinine levels were found normal rather than high in patients with type 2 DM. High uric acid levels were found in 41 patients where 39 patients were  $\geq 45$  years old, 21 patients with female gender, 40 patients with fasting blood sugar  $\geq 100$  mg/dL. High ureum levels were found in 7 patients and all patients were  $\geq 45$  years old and had fasting blood sugar  $\geq 100$  mg/dL, and 4 of the patients were female. High creatinine levels were found in 23 patients and all of them were  $\geq 45$  years old, 18 patients with male gender, and 22 patients with fasting blood sugar  $\geq 100$  mg/dL.*

*From this study it can be concluded that less than half of patients with type 2 DM have high serum uric acid levels, very few patients have high serum ureum levels, and a small proportion of patients have high serum creatinine levels due to renal impairment.*

**Keywords:** *Type 2 diabetes mellitus, diabetic nephropathy, uric acid, urea, creatinine*

## ABSTRAK

### GAMBARAN KADAR ASAM URAT, UREUM, DAN KREATININ SERUM PADA PASIEN DIABETES MELITUS TIPE 2 DI RUMAH SAKIT UNIVERSITAS ANDALAS PERIODE AGUSTUS – DESEMBER 2023

Oleh

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Peningkatan kadar asam urat, ureum, dan kreatinin serum akibat penurunan laju filtrasi glomerulus sering diamati pada penderita Diabetes Melitus tipe 2 yang mengalami komplikasi dan salah satu komplikasi yang berkaitan adalah nefropati diabetikum. Penilaian kadar asam urat, ureum, dan kreatinin penting dalam menentukan keterlibatan ginjal pada penderita DM tipe 2. Penelitian ini bertujuan memeriksa kadar asam urat, ureum, dan kreatinin serum guna menentukan ada atau tidaknya keterlibatan gangguan ginjal pada pasien rawat jalan yang terdiagnosis DM tipe 2 oleh dokter penanggungjawab di poliklinik Rumah Sakit Universitas Andalas periode Agustus – Desember 2023.

Penelitian ini merupakan penelitian deskriptif observasional menggunakan sampel sebanyak 84 pasien DM tipe 2 yang memenuhi kriteria inklusi. Hasil penelitian ini didapatkan pasien DM tipe 2 terbanyak pada usia  $\geq 45$  tahun sebanyak 79 pasien (94%), berjenis kelamin laki-laki sebanyak 43 pasien (51,19%), dan kadar gula darah puasa  $\geq 100$  mg/dL sebanyak 80 pasien (95,2%). Kadar asam urat, ureum, dan kreatinin serum lebih banyak didapatkan normal dibanding tinggi pada pasien DM tipe 2. Kadar asam urat tinggi didapatkan pada 41 pasien, 39 pasien berusia  $\geq 45$  tahun, 21 pasien dengan jenis kelamin perempuan, 40 pasien dengan gula darah puasa  $\geq 100$  mg/dL. Kadar ureum tinggi didapatkan pada 7 pasien dan semua pasien tersebut berusia  $\geq 45$  tahun dan memiliki gula darah puasa  $\geq 100$  mg/dL, dan 4 pasien tersebut berjenis kelamin perempuan. Kadar kreatinin tinggi didapatkan pada 23 pasien yang terdistribusi, semua pasien tersebut berusia  $\geq 45$  tahun, 18 pasien dengan jenis kelamin laki-laki, dan 22 pasien dengan gula darah puasa  $\geq 100$  mg/dL.

Dari penelitian ini dapat disimpulkan bahwa kurang dari separuh pasien DM tipe 2 memiliki kadar asam urat serum tinggi, sangat sedikit pasien memiliki kadar ureum serum tinggi, dan sebagian kecil pasien memiliki kadar kreatinin serum tinggi disebabkan adanya gangguan ginjal.

**Kata kunci:** Diabetes melitus tipe 2, nefropati diabetikum, asam urat, ureum, kreatinin