Hubungan antara Malondialdehid dengan eLGF pada pasien diabetes melitus Tipe 2 RSUPN Dr. Cipto Mangunkusumo = Correlation between Malondialdehyde and eGFR of patients with type 2 diabetes mellitus Dr. Cipto Mangunkusumo General Hospital

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Abstrak

Salah satu komplikasi serius akibat diabetes melitus tipe 2 adalah penyakit ginjal kronik (PGK). Deteksi dan pencegahan dini penyakit ginjal pada pasien diabetes melitus merupakan faktor utama untuk mengatasi PGK. Penelitian ini bertujuan untuk menganalisis hubungan antara kadar malondialdehid (MDA) dan nilai estimasi laju filtrasi glomerulus (eLFG) dalam serum yang dapat digunakan untuk deteksi dini gagal ginjal. Penelitian dilakukan menggunakan 18 subyek sehat (7 laki-laki, 11 wanita, rentang usia: 19-27) dan 10 pasien diabetes melitus tipe 2 (4 laki-laki, 6 wanita, rentang usia: 38-73) dari Poliklinik Penyakit Dalam Divisi Metabolik Endokrin RSUPN Dr. Cipto Mangunkusumo. Kadar MDA diukur dengan metode spektrofotometri berdasarkan reaksi antara MDA dan asam tiobarbiturat, sedangkan nilai eLFG ditentukan menggunakan metode Jaffe. Kadar MDA pasien DM tipe 2 dan subyek sehat masing-masing adalah 2,74 ± 1,2 dan 0,28 ± 0,09. Nilai eLFG pasien DM tipe 2 masing-masing adalah 68,85 ± 15,36 (Cockcroft-Gault); 66,80 ± 13,45 (MDRD study) dan 73,94 ± 16,30 (CKD-EPI) lebih rendah dibandingkan dengan subyek sehat 90,5 1 ± 15,69 (Cockcroft-Gault); 79,82 ± 20,09 (MDRD study) dan 91,13 ± 21,21 (CKD-EPI). Terdapat perbedaan kadar MDA dan nilai eLFG yang bermakna antara pasien diabetes melitus tipe 2 dan subyek sehat, namun tidak ditemukannya hubungan antara kadar MDA dan nilai eLFG.
<hr>One of serious complication of diabetes mellitus disease?s is chronic kidney diasease (CKD). The early diagnosis and treatment of kidney ailments of diabetes mellitus patients are the main factors to overcome its chronic disease. This study was aimed to analyze the correlation between malondialdehyde (MDA) concentration and estimation of glomerulous filtration rate (eGFR) value in blood serum which can be used as early diagnosis of kidney ailments. As many as 18 healthy subjects (7 males, 11 females, age ranges: 19-73) and 10 diabetes mellitus type 2 patients at the Metabollic and Endocrine Clinic of Cipto Mangunkusumo General Hospital (4 males, 6 females, age ranges: 38-73) were studied. MDA was measured by spectrophotometric assay based on reaction between MDA and thiobarbituric acid while eGFR value was measured by Jaffe method. MDA concentration of patients and healthy subjects were 2.74 ± 1.2 and 0.28 ± 0.09. The eGFR value were lower in patients with type 2 diabetes mellitus were 68,85 ± 15.36 (Cockcroft-Gault); 66.80 ± 13.45 (MDRD study) and 73.94 ± 16.30 (CKDEPI) compared with healthy subjects 90.5 1 ± 15.69 (Cockcroft-Gault); 79.82 ± 20.09 (MDRD study) and 91.13 ± 21.21 (CKD-EPI). There was significant difference both MDA concentration and eGFR value between patients with type 2 diabetes mellitus and healthy subjects, while there was no significant correlation between MDA concentration and eGFR value.