Analisis malondialdehida serum serta hubungannya dengan urine albumine creatinine ratio uacr dan laju filtrasi glomerulus pada pasien diabetes melitus tipe 2 = Analysis of serum malondialdehyde and it s corelation with urine albumin creatinine ratio uacr and glomerular filtration rate in type 2 diabetes mellitus patients

Dewi Alex Saputri, author

Abstrak

Malondialdehida merupakan produk peroksidasi lipid yang diduga bertanggung jawab sebagai penyebab terjadinya nefropati diabetik. Penelitian ini menilai hubungan antara kadar malondialdehida serum dengan UACR dan laju filtrasi glomerulus sebagai parameter fungsi ginjal. Penelitian ini menggunakan 54 pasien diabetes melitus tipe 2 sebagai sampel (3 laki-laki dan 51 perempuan, rentang usia 42-74 tahun).
Kadar malondialdehida serum diukur secara spektrofotometri menggunakan asam tiobarbiturat. Laju filtrasi glomerulus diperoleh dari nilai kreatinin serum. Kreatinin urin diukur dengan metode Jaffe dan albumin urin diukur dengan metode bromkresol hijau. Kadar malondialdehida pasien diabetes diperoleh sebesar 2,46 ± 2,58 nmol/mL; nilai UACR sebesar 42,32 ± 76,67; dan nilai laju filtrasi glomerulus sebesar 104,75 ± 46,16 (Cockroft-Gault); 89,52 ± 25,86 (MDRD study); dan 99,49 ± 46,11 (CKD-EPI).
Hasil analisis hubungan antara malondialdehida dengan Cockroft-Gault (p = 0,491, r = -0,096); MDRD study (p = 0,618, r = -0,069); CKD-EPI (p = 0,611, r = -0,071); UACR (p = 0,583, r = 0,076). Ditemukan hubungan yang bermakna antara nilai UACR dengan laju filtrasi glomerulus Cockroft-Gault (p = 0,019, r = -0,318); MDRD study (p = 0,007, r = -0,361); CKD-EPI (p = 0,010, r = -0,348). Tidak ditemukan hubungan yang bermakna antara malondialdehida dengan laju filtrasi glomerulus dan UACR.
.....
Malondialdehyde is a product of lipid peroxidation that is suspected as a cause of diabetic nephropathy. This study assessed the relation between malondialdehyde level with UACR and glomerular filtration rate as renal function parameters. This study is using 54 patients type 2 diabetes mellitus as samples (3 men and 51 women, age range 42-74 years).
Malondialdehyde was measured by spectrophotometry using tiobarbiturat acid. Glomerular filtration rate was obtained from serum creatinine value. Urine creatinine was measured based on Jaffe method and urine albumin was measured with bromcressol green. Malondialdehyde level of diabetic patients was 2.46 ± 2.58 nmol/mL; UACR was 42.32 ± 76.67; and glomerular filtration rate were 104.75 ± 46.16 (Cockroft-Gault); 89.52 ± 25.86 (MDRD study); and 99.49 ± 46.11 (CKD-EPI).
The analysis result of the relationship between malondialdehyde and Cockroft-Gault (p = 0.491, r = -0.096); MDRD study (p = 0.618, r = -0.069); CKD-EPI (p = 0.611, r = -0.071); and UACR (p = 0.583, r = 0.076) . There were significant correlation between UACR and glomerular filtration rate Cockroft-Gault (p = 0.019, r = -0.318); MDRD study (p = 0.007, r = -0.361); CKD-EPI (p = 0.010, r = -0.348). There were no significant correlation between malondialdehyde level and glomerular filtration rate or UACR.