Korelasi kadar beta-2 mikroglobulin serum dengan ketebalan tunika intima-media arteri karotis pada pasien hemodialisis high flux dan continuous ambulatory peritoneal dialysis non-diabetik = Correlation between serum beta 2 microglobulin level and carotid artery intima media thickness among non diabetic high flux hemodialysis and continuous ambulatory peritoneal dialysis patients

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Abstrak

Latar Belakang: Penyakit vaskular aterosklerotik merupakan penyebab penting morbiditas dan mortalitas pasien penyakit ginjal kronik PGK, terutama penyakit ginjal tahap akhir PGTA yang menjalani dialisis. Perbedaan potensial antara tindakan hemodilisis HD dengan Continuous Ambulatory Peritoneal Dialysis CAPD dapat memberi efek berbeda terhadap faktor risiko penyakit kardiovaskular PKV dan dalam mempengaruhi timbulnya PKV. Salah satu faktor yang mendorong timbulnya PKV pada pasien PGTA ialah retensi produk toksin uremik, di antaranya Beta-2 mikroglobulin b2M yang dihubungkan secara independen dan bermakna dengan PKV pada pasien aterosklerosis asimtomatik. Ketebalan tunika intima-media karotis KIMK merupakan petanda aterosklerosis pada pasien PGK.
Tujuan: Mengetahui perbedaan kadar b2M serum dan KIMK antara pasien HD dibandingkan pasien CAPD, dan korelasi antara kadar b2M serum dengan KIMK.
Metode: Penelitian dilakukan secara potong lintang. Subjek adalah pasien PGTA yang rutin menjalani HD atau CAPD dan memenuhi kriteria penelitian, dilakukan pengumpulan data berupa karakteristik subjek, pemeriksaan fisik, pemeriksaan kadar b2M serum dan pemeriksaan KIMK dengan ultrasonografi. Dilakukan perbandingan rerata kadar b2M serum, rerata KIMK kanan, rerata KIMK kiri antara kelompok pasien HD dan CAPD dengan uji t tidak berpasangan dan uji Mann Whitney, serta uji korelasi Pearson antara kadar b2M serum dengan KIMK.
Hasil: Dari 62 subjek penelitian yang terdiri 36 pasien HD dan 26 pasien CAPD, didapatkan kadar b2M serum pasien HD lebih tinggi tetapi tidak bermakna p 0,167; IK95 2,041-11,508, KIMK kanan lebih tebal bermakna pada pasien CAPD p 0,006, KIMK kiri lebih tebal tetapi tidak bermakna p 0,770, dan tidak didapatkan korelasi antara kadar b2M serum dengan KIMK kanan maupun kiri r 0,085 p 0,514 ; r 0,082 p 0,529.
Kesimpulan: Kadar b2M serum tidak berbeda bermakna antara pasien HD dengan CAPD, KIMK kanan lebih tebal bermakna pada pasien CAPD, KIMK kiri tidak berbeda antara pasien HD dengan CAPD, tidak didapatkan korelasi antara kadar b2M serum dengan KIMK.
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Background: Atherosclerotic vascular disease is a main cause of morbidity and mortality in chronic kidney disease patients, especially end stage renal disease undergoing dialysis. Potensial difference between hemodialysis HD and continuous ambulatory peritoneal dialysis CAPD treatment could have a different effect on cardiovascular risk factors and may differentially influence the risk of developing CVD. One of the risk factors can induce CVD is uremic toxin retention. Beta 2 microglobulin b2M is a middle molecule uremic toxin independently and significantly related to CVD in patients with asymptomatic carotid

atherosclerosis. Carotid intima media thickness CIMT is a surrogate marker of atherosclerosis in chronic kidney disease patients.
Objectives: To know the difference of serum b2M level and CIMT in HD patients group compared to CAPD patients group, and to determine correlations between serum b2M level with CIMT.
Methods: We conducted a cross sectional study. Subjects were ESRD patients undergoing HD or CAPD which fulfilled study criteria were included in study. Data collection included subjects characteristics, physical examination, laboratory examination of serum b2M level, and measurement of CIMT by Doppler ultrasound. We used non pair student t test and Mann Whitney test to compare the mean of serum b2M level and the mean of left and right CIMT between HD group and CAPD group, and Pearson correlation test to serum b2M level and CIMT.
Results: Of 62 subjects, consisted of 36 HD patients and 26 CAPD patients, we found non significant higher serum b2M level in HD patients p 0,167 95 CI 2,041 11,508, significant thicker right CIMT in CAPD patients p 0,006, non significant thicker left CIMT in HD patients p 0,770, and there was no correlation between serum b2M level with right or left CIMT r 0,085 p 0,514 r 0,082 p 0,529.
Conclusions: Serum b2M level was not significant different between HD and CAPD patients, right CIMT was thicker in CAPD patients, left CIMT was not different between HD and CAPD patients, and no correlation between serum b2M level and CIMT.