Gambaran kadar hemoglobin glikat (HbA1c) dan albumin glikat pada pasien diabetes melitus tipe 2 tidak terkontrol = Description of glycated hemoglobin (HbA1c) and glycated albumin levels in uncontrolled type diabetes mellitus

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Abstrak

Diabetes Melitus tipe 2 merupakan sekumpulan gangguan metabolik dengan karakteristik hiperglikemia. Komplikasi klinis akibat DM berkolerasi dengan status glikemik, sehingga diperlukan upaya pengontrolan status glikemik pasien DM, baik jangka pendek, jangka menengah maupun jangka panjang untuk mencegah atau mengurangi komplikasi progresif akibat penyakit tersebut. Parameter laboratorium untuk pemantauan status glikemik meliputi kadar glukosa darah harian, HbA1c, dan albumin glikat (AG).
Penelitian ini bertujuan untuk mendapatkan gambaran kadar HbA1c dan kadar AG pada pasien DM tipe 2 tidak terkontrol, mendapatkan korelasi antara kadar HbA1c dan kadar AG, juga melihat penurunan kadar HbA1c dan AG sesudah terapi 1 dan 3 bulan. Penelitian dilakukan dengan desain studi diagnostik, yang melibatkan 32 subyek penelitian yang diikuti selama 3 bulan mulai bulan Februari hingga Mei 2014. Diagnosis DM tipe 2 ditegakkan oleh dokter Spesialis Penyakit Dalam dan diagnosis DM tipe 2 tidak terkontrol didapatkan dari hasil pemeriksaan HbA1c > 7 %.
Hasil penelitian mendapatkan rerata (SD) kadar glukosa darah puasa bulan ke-0, ke-1, dan ke-3 berturut-turut sebesar 170,5(51,6) mg/dL; 162,7(54,6) mg/dL, dan 147,3(45,9) mg/dL. Median (rentang) kadar glukosa darah 2 jam postprandial l(G2PP) bulan ke-0 dan ke-1 sebesar 220 mg/dL (90-544) mg/dL dan 191,5 mg/dL (114-468) mg/dL; rerata(SD) kadar G2PP bulan ke-3 sebesar 201(65,98) mg/dL. Korelasi antara kadar HbA1c dan kadar AG adalah : pada bulan ke-0, r=0,79, p<0,001, bulan ke-1 r=0,74, p<0,001 dan bulan ke-3 r=0,78, p<0,001.
Penurunan kadar HbA1c dari baseline (delta-1) dan pada bulan ke-3 (delta-3) adalah median (rentang) delta-1 sebesar 0,43% (0,35-0,74)%, p<0,001 dan median (rentang) delta-3 sebesar 0,89% (0,64-2,30)%, p<0,001. Penurunan kadar AG bulan ke-1 dari baseline (delta-1) dan pada bulan ke-3 (delta-3): median (rentang) delta-1 sebesar 0,94% (0,48-1,64)%, p<0,001, dan median (rentang) delta-3 sebesar 1,79% (0,33-1,40)%, p<0,001.
Kami menyimpulkan bahwa terdapat korelasi positif bermakna antara kadar HbA1c dan kadar AG pada bulan ke-0, ke-1, dan ke-3, dengan kekuatan korelasi kuat (r = 0.7-0.8), selain itu terdapat penurunan kadar HbA1c dan AG yang bermakna sesudah terapi 1 dan 3 bulan.
.....Type 2 diabetes mellitus (T2DM) is a group of metabolic disorders with hyperglycemic characteristic. Clinical complications of DM correlate with glycemic state, therefore it is necessary to make an effort to control DM glycemic state, in short-, medium-, and long-term to prevent or minimize progressive complications due to the disease. Laboratory parameters to monitor glycemic state include daily blood glucose, HbA1c, and glycated albumin (GA).
This study aimed to obtain HbA1c and GA levels in uncontrolled type 2 DM patients, the correlations between HbA1c and GA levels, and also the decrease in HbA1c and GA levels after 1 month and 3 months treatment. This was a diagnostic study involving 32 subjects that were followed for 3 months from February

to May 2014. Type 2 DM was diagnosed by the internist in the Department of Internal Medicine and the uncontrolled type 2 DM was confirmed by HbA1c measurement of > 7%.
The results showed that mean (SD) fasting blood glucose levels at baseline, 1 month and 3 months were 170.5 (51.6) mg/dL; 162.7 (54.6) mg/dL, and 147.3(45.9) mg/dL, respectively. Median (range) 2 hours postprandial blood glucose levels at baseline and 1 month respectively, were 220 mg/dL (90-544) mg/dL and 191.5 mg/dL, respectively, and mean (SD) at 3 months was 201,7 (65,98) mg/dL. Correlations between HbA1c and GA levels : at baseline r =0.79, p<0.001, at 1 month r=0.74, p<0.001 and at 3 months r=0.78, p<0.001.
Decreases of HbA1c level from baseline, at 1 month (delta-1) and at 3 months (delta-3) : median (range) delta-1was 0.43% (0.35-0.74)%, p<0.001 and median (range) delta-3 was 0.89% (0.64-2.30)%, p<0.001.
Decreases of GA level from baseline, at 1 month (delta-1) and at 3 months (delta-3) : median (range) delta-1 was 0.94%(0.48-1.64)%, p<0.001, and median (range) delta-3 was 1.79%(0.33-1.40)%, p<0.001.
We concluded that there were significant positive correlations between HbA1c and GA levels at baseline,1 month and 3 months, with strong correlations (r=0.7-0.8). In addition, there were also significant decreases in HbA1c and GA levels from baseline at 1 month and 3 months therapy.