

Peran albumin glikat dan HbA1c pada kehamilan 21 - 36 minggu dengan status glikemik normal = The role of glycated albumin and HbA1c during pregnancy 21-36 weeks with normal glycemic status / Thoeng Ronald

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Abstrak

ABSTRAK

Pendahuluan: Hiperglikemia dalam kehamilan ditemui pada 25% kehamilan di Asia Tenggara, dan jika tidak terkontrol dapat menimbulkan komplikasi serius. Hemoglobin glikat (HbA1c) merupakan penanda standar status glikemik, namun dapat meningkat palsu pada kehamilan lanjut. Albumin glikat sebagai indikator status glikemik baru yang tidak dipengaruhi oleh anemia dapat menjadi alternatif dalam kehamilan.

Tujuan: Mengetahui penggunaan HbA1c dan albumin glikat pada kehamilan dengan status glikemik normal.

Metode: Sampel darah diambil dari 60 ibu hamil dengan usia kehamilan 21-36 minggu. Dilakukan pemeriksaan HbA1c, Hb, MCV, MCH, RDW, albumin glikat, albumin, besi serum, glukosa darah, saturasi transferin, dan TIBC. Parameter-parameter tersebut dibandingkan antara empat kelompok usia kehamilan (I: 21-24 minggu, n=17; II: 25-28 minggu, n=16; III: 29-32 minggu, n=16; dan IV: 33-36 minggu, n=11) menggunakan uji ANOVA atau Kruskal-Wallis dengan uji post-hoc.

Hasil: Kadar albumin glikat tidak berbeda bermakna antara keempat kelompok ($p=0.061$). Kadar HbA1c lebih tinggi pada kelompok IV (4.59 ± 0.28 %) daripada kelompok I ($4.24 \pm 0.27\%$, $p=0.009$). Kadar Hb kelompok II { $10.9 (7.9 ? 11.6)$ g/dL } lebih rendah dibandingkan III (11.68 ± 0.84 g/dL, $p=0.004$) dan IV (11.74 ± 0.66 g/dL, $p=0.001$). Kadar albumin pada kelompok IV (3.59 ± 0.22 g/dL) lebih rendah dibandingkan kelompok I (3.82 ± 0.19 g/dL, $p=0.006$). Tidak ada perbedaan bermakna MCV, MCH, RDW-CV, besi serum, TIBC, dan saturasi transferin antar kelompok usia kehamilan (semua $p>0.05$)

Kesimpulan: Kadar HbA1c berbeda menurut usia kehamilan, sedangkan pemeriksaan albumin glikat tidak terpengaruh dengan usia kehamilan. Albumin glikat dapat menjadi penanda status glikemik pada usia kehamilan 21-36 minggu.

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ABSTRACT

Introduction: Hyperglycemia during pregnancy is found in 25% of pregnancy in Southeast Asia, and when uncontrolled may cause serious complications. Glycated hemoglobin (HbA1c) is a standard indicator for glycemic status, but can show false increase during late pregnancy. Glycated albumin, a new glycemic status indicator which is unaffected by anemia, may be an alternative for pregnancy.

Purpose: To examine the usefulness of HbA1c and glycated albumin during pregnancy with normal glycemic status.

Method: Blood samples were taken from 60 pregnant women between 21-36 weeks of pregnancy. Tests were done for HbA1c, Hb, MCV, MCH, RDW, glycated albumin, albumin, serum iron, blood glucose, transferrin saturation, and TIBC. These parameters were compared among four groups of age of pregnancy (I: 21-24 weeks, n=17; II: 25-28 weeks, n=16; III: 29-32 weeks, n=16; and IV: 33-36 weeks, n=11) using

ANOVA or Kruskal-Wallis test with post-hoc tests.

Results: Glycated albumin was not statistically different among the groups ($p=0.061$). HbA1c level was higher in group IV ($4.59 \pm 0.28\%$) compared to group I ($4.24 \pm 0.27\%$, $p=0.009$). Hb level of group II { $10.9 (7.9 ? 11.6) \text{ g/dL}$ } was lower than group III ($11.68 \pm 0.84 \text{ g/dL}$, $p=0.004$) and IV ($11.74 \pm 0.66 \text{ g/dL}$, $p=0.001$). Albumin level of group IV ($3.59 \pm 0.22 \text{ g/dL}$) was lower than group I ($3.82 \pm 0.19 \text{ g/dL}$, $p=0.006$). No statistically significant difference was found for MCV, MCH, RDW-CV, serum iron, TIBC, and transferrin saturation among pregnancy age groups (all $p>0.05$)

Conclusion: HbA1c was different with different pregnancy age, but glycated albumin was not affected by pregnancy age. Therefore glycated albumin may be used as glycemic status indicator during pregnancy age of 21-36 weeks.