

ABSTRAK

PERBEDAAN PROFIL KADAR GLUKOSA DAN KADAR INSULIN ANTARA SUBJEK TOLERANSI GLUKOSA TERGANGGU DAN BUKAN TOLERANSI GLUKOSA TERGANGGU PADA WANITA USIA LANJUT YANG MENJALANI TES TOLERANSI GLUKOSA ORAL

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Latar belakang: Usia merupakan faktor penting dalam gangguan metabolisme. Toleransi Glukosa Terganggu (TGT) merupakan salah satu bukti terjadinya penurunan fungsi fisiologi pada usia lanjut. Beberapa studi terakhir menghubungkan terjadinya TGT pada usia lanjut dengan penurunan sekresi insulin, resistensi insulin, inefisiensi insulin, hormone seks atau kombinasinya.

Tujuan Penelitian: (1) menentukan proporsi TGT pada wanita usia lanjut, (2) meneliti profil kurva kadar glukosa puasa, 1, 2 dan 3 jam setelah Tes Toleransi Glukosa Ora; (TTGO) dan kadar insulin puasa serta 2 jam setelah TTGO, (3) membandingkan profil kurva rerata KGD dan kadar insulin setelah TTGO antara subjek TGT dibanding bukan TGT.

Subjek dan Metode: Observasional, data primer, deskriptif, analitik, TTGO pada populasi usia lanjut wanita tanpa riwayat diabetes melitus. Dilakukan pemeriksaan kadar glukosa puasa, 1,2 dan 3 jam setelah TTGO dan kadar insulin puasa dan 2 jam setelah TTGO. Menentukan profil kurva kadar glukosa dan kadar insulin dan membandingkan rerata kadar glukosa dan kadar insulin setelah TTGO antara subjek TGT dan bukan TGT. Perbedaan rerata dianalisis dengan *t-test* ($p < 0,05$; IK 95%).

Hasil: Enam puluh subjek mengikuti penelitian ini, rerata kadar glukosa puasa, 1,2,3 jam semua subjek: $(91,56 \pm 7,86)$; $(182,71 \pm 38,11)$; $(127,13 \pm 38,67)$; $(73,68 \pm 21,39)$ mg/dl. Rerata kadar insulin puasa dan 2 jam setelah TTGO: $(5,69 \pm 3,60)$ and $(45,80 \pm 33,57)$ uIU/ml. Dua puluh (33,3%) subjek TGT. Terdapat perbedaan bermakna rerata KGD 1 jam dan 2 jam setelah TTGO serta kadar insulin puasa dan 2 jam setelah TTGO dan indeks HOMA antara subjek TGT dibanding bukan TGT ($p < 0,05$). Subjek TGT memiliki kadar insulin puasa dan 2 jam setelah TTGO lebih tinggi dan penurunan kadar glukosa dari 2 jam ke 3 jam lebih besar dibanding bukan TGT.

Simpulan: Tiga puluh tiga persen subjek TGT. Tidak didapatkan bukti bahwa subjek TGT terjadi penurunan sekresi insulin atau resistensi insulin dan penelitian ini memberikan gambaran mekanisme TGT pada usia lanjut karena inefisiensi insulin.

Kata kunci: TTGO-TGT-profil- wanita usia lanjut

ABSTRACT

THE DIFFERENCE PROFILE OF BLOOD GLUCOSE AND INSULIN LEVEL BETWEEN IMPAIRED GLUCOSE TOLERANCE AND NON IMPAIRED GLUCOSE TOLERANCE SUBJECTS IN ELDERLY WOMEN WHO UNDERWENT ORAL GLUCOSE TOLERANCE TEST

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Background: Aging has important role in metabolic impairment. Impaired glucose tolerance (IGT) is one of many evidence of metabolic impairment in elderly. Recents study reported that IGT in elderly related with decrease of insulin secretion, insulin resistance, insulin inefficiency, sex hormones or those combination. Proportion and mechanism IGT in elderly men have been studied. Are there any different in elderly women?

Objectives: (1) to determine proportion of IGT in elderly women, (2) to investigate mean curve profile of fasting, 1st, 2nd, 3rd hour blood glucose level (BGL) and fasting and 2nd hour insulin level after oral glucose tolerance test (OGTT), and (3) to nvestigate the different mean curve profile of BGL or insulin between IGT and non IGT elderly women.

Method and Subjects: Observational, primary data, descriptive analytic, OGTT in women elderly population without history of diabetes mellitus. Measured data: fasting, 1st, 2nd, 3rd hour of BGL and fasting and 2nd hour insulin level after OGTT, mean curve profile of BGL and insulin and comparation mean of BGL and insulin level after OGTT between IGT and non IGT subjects. The different of mean analyzed with independent t-test ($p < 0.05$; 95% CI).

Result: Sixty subjects followed this study. Mean of fasting, 1st, 2nd, 3rd hours BGL after OGTT all subjects were: (91.56 ± 7.86) ; (182.71 ± 38.11) ; (127.13 ± 38.67) ; (73.68 ± 21.39) mg/dl. Mean of fasting and 2nd hours insulin level after OGTT were: (5.69 ± 3.60) and (45.80 ± 33.57) uIU/ml. Twenty subjects (33.3%) with IGT. Comparation mean of 1st and 2nd hours BGL, fasting and 2nd hours insulin level after OGTT between normal subjects and IGT subjects were significant different ($p < 0.05$). IGT subjects have mean of fasting and 2nd hours after OGTT higher and decreasing of BGL 2nd to 3rd hours more bigger than non IGT.

Conclusion: Thirty three percent subjects with IGT, there is no evidence that support IGT subjects have impaired insulin secretion and insulin resistance. This study suggest the mechanism of IGT in elderly is insulin inefficient

Keywords: OGTT-IGT-profile-elderly women