

ABSTRACT

THE RELATIONSHIP BETWEEN INSULIN RESISTANCE AND DYSLIPIDEMIA IN TYPE 2 DIABETES MELLITUS PATIENTS

Endang Widiastuti

Department of Internal Medicine

Faculty of Medicine Gadjah Mada University/Dr. Sardjito Hospital Yogyakarta

Year 2006, 72 pages

Background. Type 2 Diabetes Mellitus have high morbidity and mortality in cardiovascular diseases. In type 2 DM occurred insulin resistance leading to decreasing of insulin secretion and hyperglycemia. Insulin defect and hyperglycemia will cause lipoprotein abnormality or dyslipidemia in type 2 DM, include increasing levels of triglycerida and LDL, and decreasing level of HDL. Both, insulin resistance and dyslipidemia are risk factors for atherosclerosis cardiovascular disease.

Objective. The purpose of this study was to assess the relationship between insulin resistance and dyslipidemia in type 2 DM.

Subjects and methods. Design of this study was cross sectional study. Patients with type 2 DM were recruited from 3 hospitals: Dr. Sardjito Hospital, General Hospital city of Yogyakarta and Dr. Soeradji Tirtonegoro Centre General Hospital, Klaten, from March until September 2004. Subjects with fulfill inclusion and exclusion criteria were divided into 2 groups, insulin resistance and not insulin resistance groups, based on HOMA IR.

Results. Sixty six subjects, 23 (34,85%) males and 35 (65,15%) females were included. Mean of age was $57,65 \pm 9,69$ years, duration of DM was $58,12 \pm 52,79$ months, body mass index (BMI) $23,04 \pm 2,69$ kg/m², systolic blood pressure $120,38 \pm 9,58$ mmHg, diastolic blood pressure $78,41 \pm 7,40$ mmHg, total cholesterol level $206,65 \pm 33,69$ mg/dl, TG $123,08 \pm 53,18$ mg/dl, LDL $124,67 \pm 29,57$ mg/dl, HDL $56,40 \pm 22,25$ mg/dl, HbA1c $8,57 \pm 2,51\%$, fasting glucose $173,86 \pm 82,71$ mg/dl, fasting insulin $7,16 \pm 3,57$ μ Unit/ml, HOMA IR $3,16 \pm 2,47$, and 61 (92,42%) subjects were dyslipidemia, 29 (43,94%) subjects were insulin resistance and dyslipidemia. There were significant differences in BMI ($p=0,017$), fasting glucose ($p<0,0001$) and fasting insulin ($p<0,0001$) between insulin resistance and not insulin resistance groups. Insulin resistance was significantly correlated with BMI ($r=0,292$; $p=0,009$), fasting glucose ($r=0,440$; $p<0,0001$) and fasting insulin ($r=0,651$; $p<0,0001$), not significantly correlated with TG ($r=0,159$, $p=0,101$), and was not significantly inversely correlated with levels of total cholesterol ($r=-0,095$, $p=0,223$), LDL ($r=-0,157$, $p=0,104$), and HDL ($r=-0,032$, $p=0,400$).

Conclusion. In this study there was no relationship between insulin resistance and dyslipidemia in type 2 DM patients.

Keywords. Type 2 DM-insulin resistance-dyslipidemia