

Fibrinogen level was correlated with glycemic control, not with lipid profiles in type 2 DM patients

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Background: The worldwide prevalence of type 2 diabetes mellitus (T2DM) has risen dramatically over the last two decades and it indicated that the number of individuals with diabetes will continue to increase near future. Fibrinogen plays a role as a risk factor increasing cardiovascular morbidity and mortality in T2DM. Fibrinogen is determined by several modifiable and non-modifiable factors like BMI, glycemic control and lipid profiles.

Objective: The aim of this study is to analyze the correlation of fibrinogen level, glycemic control and lipid profiles in T2DM patients.

Material and methods: This cross sectional study was conducted at diabetes outpatient clinic Dr. Soetomo teaching hospital Surabaya Indonesia. Inclusion criterias were patients with T2DM aged over 45 years old and signed informed consent. Patients with severe infection, renal and liver dysfunction, pregnancy, fibrate treatment were excluded in this study. We interviewed and measured body weight and height, BMI, blood pressure and baPWV. Fasting plasma glucose (FPG) and post prandial glucose (PPG), HbA1c, lipid profiles and fibrinogen level were measured as well. Data was statistically analyzed using Pearson correlation test.

Results: We analyzed 40 patients who have been diagnosed with T2DM consisting of 17 males and 23 females. There were 16 T2DM patients with BMI < 25 kg/m² (non-obese) and 24 patients with BMI > 25 kg/m² (obese). The overall mean HbA1c was 8.01±1.39%, total cholesterol was 203.57±28.02 mg/dL, LDL-cholesterol was 144.52±36.57 mg/dL, HDL-cholesterol was 47.15±13.02 mg/dL, triglyceride was 179.31±54.42 and fibrinogen 456.75±142.60 mg/dL. One Sample Kolmogorov Smirnov statistical test indicated that the data distribution was normal. There was significant correlation between fibrinogen level and HbA1c (r 0.313; p < 0.05). In other hand, there were no significant correlations between fibrinogen level and total cholesterol (r 0.239; p 0.137), LDL cholesterol (r 0.027; p 0.137), HDL cholesterol (r 0.112; p 0.493) and triglyceride (r 0.134; p 0.409). There was significant correlation between fibrinogen level and

HbA1c² in non-obese patients ($r = 0.568$; $p < 0.05$), but there was not in obese patients ($r = 0.001$; $p = 0.998$).

Conclusion: There was significant correlation between fibrinogen level and glycemic control among T2DM patients, but there was no significant correlation between fibrinogen level and lipid profiles. There was also significant correlation between fibrinogen and glycemic control in non-obese patients, in contrast with the obese patients.

Fibrinogen level was correlated with glycemic control, not with lipid profiles in type 2 DM patients

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