

# High molecular weight adiponectin and lipid profile in the type-2 diabetes mellitus-Mets

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## PH-05

### High molecular weight adiponectin and lipid profile in the type-2 diabetes mellitus-Mets

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**Background:** Dyslipidemia is a major component of the metabolic syndrome (Mets) and a strong risk factor for the development of cardiovascular disease. High Molecular Weight (HMW) Adiponectin is an adipocyte-derived hormone that enhances insulin sensitivity. It plays an important role in glucose and lipid metabolism. Plasma HMW adiponectin level is decreased in patients with type 2 diabetes. The effects of dyslipidemia on plasma HMW adiponectin levels in human subjects have not yet been studied.

**Aim:** To investigate the correlation between HMW adiponectin level and lipid profile in the type-2 diabetes mellitus (T2DM)-Mets patients.

**Method:** This is a cross sectional study with T2DM-Mets patients who came to the outpatient clinic of Soetomo Hospital in Surabaya during January 2010 to December 2012. Subjects met the inclusion and exclusion criteria were measured their HMW adiponectin level in plasma using ELISA method. Index lipid profile measured were serum high-density lipoprotein cholesterol (HDL-C), triglyceride (TG), low-density lipoprotein cholesterol (LDL-C), LDL/HDL ratio and TG/HDL ratio. The study was approved by the local Research Ethics Committee and subjects gave written informed consent.

**Results:** Forty T2DM-Mets patients consisted of 16 (40%) males and 24 (60%) females who met inclusion and exclusion criteria were enrolled in this study. Their mean of age was  $51 \pm 5.2$  years old, duration of illness was  $16.49 \pm 23.4$  months, HMW adiponectin level was  $2,195.6 \pm 4.6$  ng/mL, A1C level was  $8.52 \pm 0.9\%$ , BMI was  $26.62 \pm 4.5$  kg/m<sup>2</sup>, LDL-C level was  $148.35 \pm 31.1$  mg/dL, triglyceride level was  $173.00 \pm 100.2$  mg/dL, HDL-C level was  $48.15 \pm 8.93$  mg/dL, LDL/HDL ratio was  $3.15 \pm 0.7$ , and TG/HDL ratio was  $3.78 \pm 2.4$ . Spearman's correlation analysis showed that HMW adiponectin level was significantly correlated with triglyceride level and TG/HDL ratio ( $p = 0.009$ ;  $r = -0.407$  and  $p = 0.014$ ;  $r = -0.387$ , respectively). However, no significant correlation found with HDL-C, LDL-C, and LDL/HDL ratio.

**Conclusion:** Triglyceride cholesterol and TG/HDL ratio are correlated with HMW adiponectin level in this T2DM-MetS population.

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