

**[P1-3]****Effects of triglyceride response to a high fat meal on the metabolic syndrome and antioxidant vitamin levels in healthy men**

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It has been proposed that postprandial lipoprotein metabolism could be implicated in the development of atherosclerosis. The fasting concentrations of serum TG are an important determinant of the magnitude and duration of the postprandial TG response. However, the rate of TG clearance after a fatty meal varies even among normotriglyceridemic subjects. Therefore, the aim of this study was to examine the effect of the TG response to a high fat meal (HFM) on the metabolic syndrome and antioxidant system in healthy men. After completing one-week interval three consecutive analyses of fasting serum TG, fasting hypertriglyceridemia (HTG) was defined as the mean of fasting serum TG levels above 150mg/dL. After a HFM, postprandial HTG or high responder was defined as postprandial TG maximum levels above the 50<sup>th</sup> percentile (200mg/dL) of TG maxima distribution. All of the men with fasting HTG were high responders (HRHF group, n=24). Normotriglyceridemic men were subdivided into normal responders (NRNF, control group, n=41) and high responders (HRNF group, n=17). There were no significant differences in age and body mass index among three groups. HRHF group showed the highest mean value of blood pressure. Serum fasting concentrations of TG, total- and LDL-cholesterol and apolipoprotein (apo) B were higher (P<0.05), and those of HDL-cholesterol and apo A1 were lower in the HR groups than in the control group. HRHF group showed lower concentrations of testosterone, IGF-1 than those of control group (P<0.05). Visceral fat area at L1 and L4 were significantly greater in the HR groups than in the control group (P<0.001). After a HFM, the areas under the curve of glucose, free fatty acid and insulin were higher in the HRHF group than in the control group (P<0.05). HRHF group showed lower serum concentrations of  $\alpha$ ,  $\beta$ -carotene (P<0.01), lycopene (P<0.01) and  $\gamma$ -tocopherol (P<0.05) compared with control group. Plasma concentration of malondialdehyde and coagulant activities of factor II, VII were higher in the HRHF group than in the control group (P<0.05). In conclusion, the present results indicate that high responders to a HFM in regardless of fasting TG levels were associated with dyslipidemia, visceral fat accumulation, hyperinsulinemia and decrease in serum antioxidant vitamin levels.