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ABSTRACT BOOK

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as tumor necrosis factor- $\alpha$  (TNF- $\alpha$ ) and interleukin-6 (IL-6), in addition to their role in immune response in hypertension, are involved in the development of obesity. The aim of our clinical study was to assess plasma TNF- $\alpha$  and IL-6 levels depend on presence of overweight, obesity and abdominal obesity.

**Methods:** Anthropometric parameters (height, body mass, body mass index (BMI), waist circumference), plasma TNF- $\alpha$  and IL-6 levels by ELISA were measured in 90 hypertensive patients. Abdominal obesity was defined according IDF (2005).

**Results:** Patients were divided into two groups depend on BMI means: 1 group (n=20) with BMI < 25 kg/m<sup>2</sup>; 2 group (n=70) overweight and obese subjects with BMI > 25 kg/m<sup>2</sup>. Plasma TNF- $\alpha$  (7.11 $\pm$ 1.38 pg/ml) and IL-6 (11.93 $\pm$ 0.21 pg/ml) levels 2 group patients were statistically higher as compared with 1 group - TNF- $\alpha$  (3.09 $\pm$ 0.18 pg/ml; p=0.005), IL-6 (10.27 $\pm$ 0.39 pg/ml; p=0.001). Comparison of adipocytokines levels in hypertensives depend on presence of abdominal obesity showed that TNF- $\alpha$  (7.78 $\pm$ 1.69 pg/ml) and IL-6 (11.96 $\pm$ 0.24 pg/ml) levels in hypertensives with abdominal type of body fat distribution (n=56) exceed TNF- $\alpha$  (3.63 $\pm$ 0.52 pg/ml; p=0.021) and IL-6 (10.91 $\pm$ 0.33 pg/ml; p=0.012) levels in hypertensive patients without abdominal obesity. It was found that TNF- $\alpha$  positively correlated with waist circumference (r=0.277; p=0.039) in patients with abdominal obesity.

**Conclusion:** Results of our clinical study indicate increased adipocytokines production in overweight and obese hypertensive patients more closely related to abdominal obesity presence.

#### EFFECT OF VERY-LOW-CALORIE-DIET(VLCD) ON CYTOKINE AND ADHESION MOLECULES IN PATIENTS OF METABOLIC SYNDROME(MS) WITH OBESITY

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**Background:** With diabetes and obese patients, we found increase of cytokines and adhesion molecules. It is thought that they play an important role for the onset and development of a complication such as arteriosclerosis. However, a change of them in patients of Metabolic Syndrome (MS) with obesity by dieting and a weight change are not clarified enough.

**Purpose:** To clarify an influence to cytokines and adhesion molecules by VLCD in patients of MS with obesity.

**Objects and methods:** We enforced VLCD treatments (600-800 kcal/ day) more than minimum 1week for persons with obesity (MS(+); N=8, MS(-); N=4), then We measured and examined comparison blood IL-18, Adiponectin, hs-TNF- $\alpha$ , VCAM-1, ICAM-1 and L-selectin before start and after one-two weeks and more than three weeks.

**Result:** In both MS(+) and MS(-) groups, BMI, total cholesterol and Triglyceride decreased significantly in both one-two weeks later and more than three weeks, compared with before the VLCD. In MS(+) group, VCAM-1 increased significantly after VLCD for one-two weeks, but appearing did not show a change at more than three weeks. Adiponectin in MS(-) group rise significantly after VLCD more than three weeks, but appearing did not show a change for one-two weeks. IL18, hs-TNF- $\alpha$ , ICAM-1, L-selectin did not show a meaningful change after a VLCD treatment in both MS(+) and MS(-) groups.

**Conclusion:** In the start early stage of a VLCD for a person having MS with obesity, it was suggested that sudden weight decrease might give vessels damage from an aspect of adhesion molecule.

#### THE ASSOCIATION BETWEEN SERUM ADIPONECTIN AND ANTHROPOMETRIC MEASUREMENTS IN MALAY ADULTS

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**Objective:** Low level of serum adiponectin is associated with low physical activity and high caloric intake. It is also proposed to vary between ethnicity. Hence, we aimed to investigate the association between serum adiponectin and anthropometric measures in adults from the Malay ethnicity.

**Method:** This is a cross-sectional study involving 43 adults aged between 30 to 70 years old living in a rural village in Malaysia. Anthropometric measurements include height, weight, waist circumference and hip circumference. Body composition was measured using InnerScan™ Body Composition Monitor (Tanita, Japan). Body mass index (BMI) and waist-hip-ratio (WHR) was calculated using standard formula. Serum adiponectin was measured using a commercial adiponectin Enzyme Linked Immunosorbent Assay (Millipore, USA).

**Results:** Serum adiponectin ranged from 3.7  $\mu$ g/ml to 42.6  $\mu$ g/ml with mean of 16.2  $\mu$ g/ml. Adiponectin level was significantly (P< 0.001) higher in female (18.8  $\mu$ g/ml) compared to male (9.4  $\mu$ g/ml) subjects. Adiponectin was significantly correlated with waist circumference (r=-0.4, P< 0.05), waist-hip-ratio (r=-0.4, P< 0.01) and visceral fat (r=-0.3, P< 0.05). No significant association was found between adiponectin with BMI and percentage body fat.

**Conclusion:** Adiponectin is associated with measures of central obesity such as waist circumference, WHR and visceral fat. Hence, it has potential to appear as a biomarker for central obesity and could be possibly used as one of the component for metabolic syndrome criteria.

#### DIETARY PATTERNS AND MARKERS FOR THE METABOLIC SYNDROME IN ADOLESCENTS

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**Aims:** Overweight and other risk factors for cardiovascular disease (CVD) as well as their clustering, or the metabolic syndrome, are increasingly prevalent among children and adolescents. We examined relationships between dietary patterns and CVD risk factors and the clustering of these risk factors in a cohort of 14 year old adolescents living in Perth, Western Australia.

**Methods:** Two dietary patterns, 'Western' and 'Healthy', were identified in food frequency questionnaire data using factor analysis. Associations between these dietary patterns and BMI, waist circumference, systolic blood pressure, plus fasting levels of serum glucose, insulin, total cholesterol, HDL-C, LDL-C, triglycerides and insulin resistance (HOMA) were assessed using ANOVA. The clustering of these risk factors was examined in relation to both dietary patterns using logistic regression. Aerobic fitness and socio-demographic factors were considered as potential confounders.

**Results:** 1,139 adolescents provided complete data. The 'Western' dietary pattern was associated with a higher odds of clustering several risk factors (p for trend =0.02) as well as higher mean scores for total cholesterol (p for trend=0.03), waist circumference (p for trend=0.03) and BMI (p for trend =0.02) in girls, but not boys. The 'Healthy' dietary pattern was not related to the clustering of risk factors but was inversely associated with serum