

DYSLIPIDEMIC PROFILE RELATIONS TO INSULIN RESISTANCE

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ABSTRACT

INTRODUCTION: Insulin resistance and atherogenic dyslipidemic profile are the main characteristics of the metabolic syndrome. The aim of this study was to discover the positive relation between atherogenic dyslipidemic profile and increased insulin resistance determined through homeostatic model assessment (HOMA) in obese women subjects.

MATERIALS AND METHODS: HOMA (H) was determined as a ratio of the multiplied fasting glucose (G_0) and insulin levels (I_0) divided with 22.5 ($G_0 \times I_0 / 22.5$). According to H the patients were divided in 3 groups: 1st gr. $H < 4$ and $BMI 28 \pm 8 \text{ kg/m}^2$, 2nd gr. $H = 4-8$ and $BMI 40 \pm 73.8 \text{ kg/m}^2$ and the 3rd gr. $H > 8$ and $BMI 41 \pm 68 \text{ kg/m}^2$. The examinees were 90 women divided in 3 equal groups not different according to their age. Triglycerides (TG), total cholesterol (TC), high density lipoprotein (HDL-C), low density lipoprotein LDL-C, expressed in mmol/l and indexes of the atherogenic risk C/HDL-C and LDL/HDL-C were determined.

RESULTS: First group had TG values 1.05 ± 0.48 , TC 4.8 ± 0.79 , HDL-C 1.19 ± 0.47 , LDL-C 3.27 ± 0.76 , C/HDL-C 3.05 ± 1.18 , LDL/HDL-C 4.45 ± 1.48 . In the 2nd group the patients had higher correspondent values: 1.39 ± 1.01 , 4.97 ± 0.88 , 1.04 ± 0.33 , 3.33 ± 0.48 , 3.62 ± 1.42 and 5.33 ± 1.72 .

DISCUSSION: Patients in the 3rd gr. had significantly higher TG levels 1.8 ± 0.8 ($p < 0.001$), significantly lower HDL-C levels 0.88 ± 0.19 ($p < 0.011$), significantly higher C/HDL-C ratio 4.2 ± 1.32 ($p < 0.015$) and LDL/HDL-C had significantly higher level 5.26 ± 1.69 ($p < 0.003$). HOMA index correlated significantly with TG ($p < 0.001$), LDL-C ($p < 0.011$), C/HDL-C ($p < 0.001$), LDL/HDL-C ($p < 0.001$) and significantly negatively with HDL-C ($p < 0.001$).

CONCLUSION: HOMA correlated significantly to dyslipidemic profile and was confirmed as a good indicator of insulin resistance. It was confirmed that insulin resistance determined with HOMA index was associated with dyslipidemic profile.

Key words: dyslipidemia, HOMA index, insulin resistance