

Abstract of diploma thesis

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Title: Dysmetabolic mechanism in the definition of metabolic syndrome

Diploma thesis

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The aim of this thesis is to assess the significance of insulin resistance in the pathophysiology of metabolic syndrome by measuring levels of the body fat burning during fasting and during the oral glucose tolerance test (OGTT).

Next, we tried to establish a typology of different insulin groups. Under this classification, we expect identification of stage of pathology of the metabolism by insulin response to glucose load and the consequent effect on tissue metabolism.

The experiment included 273 subjects who underwent OGTT and evaluation of the current fat burning device *DeltatracTM*. The withdrawn blood samples were determined in order to provide levels of insulin and c-peptide by methods imunoradiometric determination/analysis (IRMA). The determined values were statistically processed in order to assess particular relationships.

Results section describes the obtained relations. We found BMI dependence on fasting and glucose induced inzulinemy. Dependence of the energy use of fats on inzulinemy was not proven. Next, we made a proposal insulin typology.

In conclusion, the study of oxidation of fats in relation to carbohydrate load and design of insulin typology requires further detailed analysis, which would confirm our hypothesis.