Introduction

Obesity is the key risk factor for the development of insulin resistance, type 2 diabetes, cardiovascular diseases and non-alcoholic fatty liver disease (NAFLD).

NAFLD refers to a spectrum of conditions that ranges from simple hepatic steatosis to more severe disorders, including non-alcoholic steatohepatitis (NASH), fibrosis and finally, cirrhosis. NAFLD is characterized by elevated level of liver enzymes in the circulation. In particular, some prospective studies have shown that ALT and GGT are independent predictors of type 2 diabetes incidence.

Objectives

- Determination of eventual association between liver enzymes and cardiometabolic risk factors
- Identification of key anthropometric and biochemical parameters that predict insulin sensitivity according to the certain degree of obesity
- Assessing biomarkers in order to target individuals at risk for the introduction of weight management strategies

Methods

- Obesity and triglycerides predict biomarkers of insulin sensitivity in obese, non-diabetic adult patients

Table 1. Anthropometric and metabolic characteristics of the study subjects stratified into two groups (A and B) according to BMI

Table 2. Univariate correlations between liver enzymes and anthropometric and metabolic variables (adjusted for age and gender)

Conclusion

- A significant correlation was found between liver biomarkers (in particular ALT and GGT) on one hand, and anthropometric parameters of abdominal obesity, HOMA-IR, one- and two-hours post-load plasma glucose and insulin levels and plasma triglycerides, on the other hand
- Parameters of insulin sensitivity and glucoregulation in obese patients could be presumably mainly by levels of liver enzymes and triglycerides regardless of the degree of obesity

References