Objective: To investigate the role of hypocaloric high-protein diet, a prospective clinical study was conducted in NAFLD patients.

Research methods and procedures: Pre-versus post-interventional data were analyzed in 48 stable NAFLD patients (submitted to a hypocaloric high-protein diet during 75 days. Variables included anthropometrics (body mass index/ BMI and waist circumference/WC), whole-body and segmental bioimpedance analysis and biochemical tests. Diet compliance was assessed by interviews every two weeks. Results: BMI, WC and body fat mass remained relatively stable (-1.3%, -1.8% and -2.5% respectively, no significance). HDL-cholesterol increased (P < 0.05) whereas total, LDL and VLDL cholesterol, triglycerides, aspartate aminotransferase/AST, gamma glutamyltransferase/GGT, alkaline phosphatase/AP, fasting blood glucose and glycated hemoglobin/ HbA1c decreased (P < 0.05). When patients were stratified according to increase (22/48, 45.8%) and decrease (21/48, 43.8%) of BMI, association between weight decrease and liver benefit could be elicited in such circumstances for ALT, AP and AST/ALT ratio. No change could be demonstrated in patients who gained weight. Multivariate assessment confirmed that waist circumference, ferritin, triacylglycerol, and markers of glucose homeostasis were the most relevant associated with liver enzymes.

Discussion: Ours results are consistent with the literature of calorie restriction in the management of NAFLD. Changes in lifestyle and weight loss are recommended for NAFLD patients. European guidelines also support this recommendation. Conclusion: This is the first study that demonstrated that a high protein, hypocaloric diet were associated with improvement of lipid profile, glucose homeostasis and liver enzymes in NAFLD independent on BMI decrease or body fat mass reduction.

Keywords
NAFLD, Hypocaloric diet, Hyperproteic diet, Liver enzymes, Weight loss.