ASSOCIATION BETWEEN TRANS FATTY ACIDS FROM NATURAL AND INDUSTRIAL SOURCES OF DIET AND CARDIOVASCULAR RISK FACTORS AND ENDOTHELIAL FUNCTION OF PATIENTS WITH TYPE 2 DIABETES MELLITUS

C. Kirst, I. Oliveira, C. Bassotto, T. Weiss, S. Antunes, A. Santos, **T. Zelmanovitz**
Internal Medicine Department, Universidade Federal Do Rio Grande Do Sul, Brazil

Introduction: Several studies investigate the difference of the impact that industrial Trans fatty acids (TFA) and those from ruminants exert on cardiovascular disease (CVD), finding conflicting results. Objective: To evaluate the relationship between TFA of natural and industrial origin and cardiovascular risk factors, endothelial function and ischemic heart disease in patients with type 2 DM. Methodology: Patients with type 2 DM were submitted to clinical (glycemic control, lipid profile, blood pressure and detection of diabetic chronic complications) and anthropometric evaluation, and determination of endothelial function (Doppler study of the brachial artery to determine its diameter and the flow-mediated dilatation [FMD]). The patients made three-day weighed food records and the diet was calculated using the Nutribase Clinical Nutritional Manager software. Results: 186 patients were analyzed (44% men; mean age: 63y. and mean BMI: 29.4 kg/m^2). It was observed that the intake of TFA of ruminants was associated with the abdominal circumference of higher CV risk (dependent variable) [Risk Ratio: 2.45 (95% CI: 1.11–5.38); P=0.026], adjusted for sex and age. Also, the intake of TFA of ruminants was associated with the greater diameter of the brachial artery [Risk Ratio: 1.93 (95% CI: 1.01–3.69); P=0.047], adjusted for age, hypertension and abdominal circumference. No association was found between the industrial TFA and the CV risk factors and parameters of endothelial function. Conclusion: The present study suggests that the greater consumption of TFA from ruminant sources in patients with type 2 DM is related to the greater abdominal circumference and worse endothelial function.