Supplementation with a soluble dietary fiber, NUTRIOSE®, improves insulin resistance and determinants of metabolic syndrome in overweight men

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Introduction
How dietary fiber can influence determinants of metabolic syndrome is controversial. NUTRIOSE® (Roquette, France), a soluble resistant dextrin with prebiotic properties, has been clinically proven [34g/day] to beneficially affect bodyweight(BW), body mass index (BMI), body fat (BF), hunger feeling (HF) and caloric intake (CI)1,2,3. In this context, a secondary objective of the same trial was to investigate whether dietary supplementation with this fiber was associated with a positive impact on parameters such as insulin resistance and determinants of metabolic syndrome (MS) in overweight men, following a double-blind, randomized, placebo-controlled design.

Materials and Methods

Objective
- To determine the effects of NUTRIOSE® supplementation on insulin resistance and the determinants of metabolic syndrome in overweight men.

Parameters
- Biomarkers of lipid metabolism: cholesterol (total, HDL, LDL, VLDL), triglycerides
- Biomarkers of glucose metabolism: Adiponectin, glucose, insulin, glycosylated hemoglobin (HbA1c), glycolated albumin after an overnight fast of 12h, at Week 0, 4, 8, 12

Study design
- Randomized, placebo-controlled, double blind, parallel, multi-center
- Groups: 2 groups of n=60 volunteers
- Subjects: Overweight Chinese male adults aged 20-35 yrs, BMI=24-28 kg/m²

Results

Twice daily supplementation with NUTRIOSE® over a 12-week period had been demonstrated11 to significantly decrease BW, BMI, BF, WC and HF, in association with a decreased CI. Moreover, NUTRIOSE® has improved the lipid and glucose metabolism of slightly overweight Chinese volunteers. The metabolic syndrome status of the volunteers is largely improved with NUTRIOSE®. Supplementation is well tolerated, lowers insulin resistance, and improves some determinants of metabolic syndrome in overweight men. This makes of NUTRIOSE® a promising tool for diet fortification with fibers, particularly in the context of weight management and chronic metabolic disorders associated with overweight11.

Reference:

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