Abstract

Introduction: Inulin and FOS are prebiotics with potential benefit in cardiovascular risk factors. Alpha linolenic acid (ALA) is the metabolic precursor of the long chain n-3 fatty acid eicosapentaenoic acid (20:5n-3), this fatty acid has anti-inflammatory properties. The aim of our study was to evaluate the response of the cardiovascular risk profile in obese patients after inclusion in the diet of an ALA, FOS and inulin enriched-cookie. Material and methods: 36 patients were randomized in both branches: group I (inulin, FOS and ALA enriched cookie) Gullon SL® and group II (control cookie). Previsous and after 1 month of the treatment, a nutritional and biochemical study was realized. Results: 15 patients finished the protocol in each group. In group I, a significantly increase in soluble fiber (2.3 ± 0.8 g/day vs 7.7 ± 0.8 g/day: p < 0.05) and ALA (0.6 ± 0.5 g/day vs 3.8 ± 0.5 g/day; p < 0.05) intakes was detected. In this group a significant decrease of total cholesterol (238.1 ± 45.3 mg/dl vs 210.5 ± 38.1 mg/dl: p < 0.05), LDL cholesterol (153.6 ± 23.2 mg/dl vs 127.1 ± 27.9 mg/dl: p < 0.05) and C reactive protein (6.6 ± 1.4 mg/dl vs 4.4 ± 1.8 mg/dl: p < 0.05) was reached in males. Anthropometric parameters did not change in both groups. The increase in soluble fiber and ALA dietary intakes did not produce any gastrointestinal adverse effect. Conclusion: The increase of 2 grams per day of inulin, 3.1 grams per day of FOS and 3.2 grams per day of alpha linolenic (ALA) dietary intakes from an enriched-cookie, improved total cholesterol, LDL cholesterol and C reactive protein levels in obese males. As far as we know, this is the first study that has evaluated the effect on risk factors of an ALA enriched cookies.

Keywords
Acid alpha linolenic, Cardiovascular risk factors, Cookies, FOS, Inulin, Obesity.