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Cardioprotective effect of a meat with omega-3 and rosemary antioxidant in low cardiovascular risk people.

*L. Bermejo; V. Loria-Kohen; L. Zurita-Rosa; M. Tabernero;
G. Reglero; P. Frial; C. Gomez-Candela.*

Introduction: to design and research functional foods that may have a beneficial effect on the public health is a current topic of great interest in food and nutrition science.

Objectives: to evaluate the cardioprotective properties of consumption of a functional meat enriched with rosemary extract and omega-3 fatty acids on different cardiovascular risk parameters in dyslipidemic population without drug treatment.

Method/Design: In a randomized, cross-over, double-blind, placebo-controlled study, 43 dyslipidemic subjects without drug treatment, received 3 servings/week (serving=150 g) of a functional meat (FM) (turkey or ham slices) enriched with rosemary extract (0,03%) and omega-3 (0,9%) or control meat (CM). Each volunteer received the 2 product in random order (FM/CM or CM/FM) during 12-weeks intervention periods with 4-weeks washout period. A balanced diet was recommended during the study. Dietetic, anthropometric, and biochemical data, and different cardiovascular risk scores (Framingham, LDL/HDL, Col/HDL) were collected and calculated at baseline and at the end of each intervention period.

Results: Nor statistical differences were found in energy intake during FM and CM intervention. Framingham risk score (-0.2287 ± 0.13 vs. 0.1644 ± 0.13 , $p < 0.05$) and the inflammatory indicator parameter PAI-1 (-0.22 ± 0.13 vs. 0.33 ± 0.13 ng/mL, $p < 0.01$) was significantly lower in FM. There were no changes in blood lipid profile parameters. However, FM subjects with initial risk HDL values ($\square 40$ mg/dL ♂, $\square 50$ mg/dL ♀) increased the HDL-Cholesterol (1.55 ± 1.28 mg/dL vs. -0.41 ± 1.29 mg/dL), and decreased the LDL/HDL ratio (-0.090 ± 0.15 vs. 0.17 ± 0.15) at the end of the intervention, while in the CM group the difference no were significant. Finally, the antioxidant capacity in blood was significantly higher in FM comparing with CM (1.78 ± 1.25 vs. -2.68 ± 1.27 , $p < 0.05$).

Conclusions: FM consumption within the context of a balanced diet may have an anti-inflammatory, antioxidant and cardioprotective effect, especially in population with low/moderate cardiovascular risk.

Key Words: functional food, omega-3, rosemary antioxidant, functional meat, cardiovascular disease.