

Muscle in exercise. Role of different fatty acids in diets

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SUMMARY

This experimental study concerns influence of feeding in experimental animals (mice), using diets containing fatty acids of either animal or vegetal origin, in particular extra-virgin olive oil which is rich in monounsaturated fatty acids (MUFAs). Animals have been divided into several experimental groups including either inactive or in exercise animals fed with either diet containing unsaturated fatty acids and cholesterol of animal origin or diet whose lipids have been substituted with extra-virgin olive oil. Exercising animals have been studied over a 150 days period of training. In particular it has been studied serum lipid profile, microscopic as well as ultrastructural features of myocardium and skeletal muscle and potential risks for atherogenesis of both diets. Results showed the fundamental importance of extra-virgin olive oil in preventing atherosclerosis and coronary cardiopathy. This result was particularly highlighted by serum lipid profiles in animals of all experimental groups. The morphological findings are parallel and in agreement with the hematological ones both in light microscopy as well as in electron microscopy. In considering that mouse, as experimental animal, is similar to human, from a phylogenetic and physiopathologist point of view, the consequences of our experimental findings, in the present study, are of interest for human prevention against coronary heart diseases.

INTRODUCTION

Today, biomedical searches about nutrition are considered very important for the simple reason that daily diet constitutes a vehicle of introduction, in organism, of specific chemical substances present in food that everyone habitually uses. Food determines our metabolism in relation to substances that we introduce with diet or we avoid, and in relation to the physiological adaptations of our endocrine system that control and regulate it.

Such as proteins, carbohydrates, mineral salts and water, lipids are indispensable to organism because they are present in structures like cellular membranes; on