Effects of the Variation of *trans* Fatty Acids/Saturated Fatty Acids Ratio in Dairy Products on the Cardiovascular Risk in Healthy Volunteers.

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Context: Among dietary fats, fatty acids are present as saturated and unsaturated fatty acids. Detrimental effects of consumption of industrial trans fatty acids (TFA) (elaidic acid) from partially hydrogenated vegetable oils (PHVO) on cardiovascular disease (CVD) risk factors are well documented. However, very little information is available on the effect of natural sources of TFA (vaccenic acid, VA) coming from milk fat, dairy products and ruminant meat. Otherwise, the dairy fat content contains saturated fatty acids. A lot of interventional studies have showed that the consumption of saturated fat increases the LDL (cholesterol plasma concentration. Moreover, the modification of the food of the ruminants can modify the fatty acid milk composition, especially the saturated/ *trans* fatty acids ratio.

The objective of this study is to evaluate the impact of the changes of this saturated/ trans fatty acids ratio in dairy products on the plasmatic HDL-Cholesterol concentration in healthy volunteers.

Study design: This study is a monocentric, randomised, double-blind, controlled study. One Hundred and eleven healthy, normolipemic male and female volunteers (18y to 50y) will be recruited. The duration of the study is 4 weeks per each volunteer. During the first week (run-in period), all subjects will consume daily commercial dairy products. Thereafter, the volunteers will be randomly allocated to one of the three groups, stratified for gender. For the next 3 weeks of the study (intervention period), the first group will consume dairy products containing about 70% saturated fatty acids (SFA)/ 0.5% VA. The second group received daily dairy products containing around 62% SFA/ 4.6% VA, and the third group will received dairy products containing 53%SFA/ 4.5% VA. Fasting blood will be sampled twice during the study, at the end of the run-in time-period and at the end of the 3 weeks. Different parameters will be measured such as the HDL-cholesterol level, Triglycerides, total cholesterol, Apo A1 , Apo B, plasma. Lp(a), CETP, LDL, HDL and VLDL levels and subclass.

The beginning of this study will be in next April.