

Comparative effect of fish oil feeding and other dietary fatty acids on plasma lipoproteins, biliary lipids, and hepatic expression of proteins involved in reverse cholesterol transport in the rat

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Background: While elevated plasma high-density lipoprotein (HDL) levels has been associated to a reduction in cardiovascular risk, dietary fish oils rich in omega-3 polyunsaturated fatty acids (PUFAs) may protect against this disease. The protective effect of HDL is associated to its participation in the reverse cholesterol transport pathway. On the other hand, omega-3 PUFAs decrease plasma HDL levels compared to other fatty acids, which may suggest an effect on reverse cholesterol transport.

Aim: In this work, the effect of dietary fish oil on the fatty acid composition of hepatic membranes, plasma lipoprotein cholesterol profile, biliary lipids, and the expression of proteins involved in reverse cholesterol transport, was compared to other dietary oils having a different degree of fatty acid unsaturation. **Methods:** Male rats were fed a semi synthetic diet containing fish oil (omega-3), sunflower oil (omega-6), olive oil (omega-9) or coconut oil (saturated). Hepatic membrane fatty acid