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EFFECTS OF TRIACYLGLYCEROL ON THE PLASMA REMOVAL OF PROTEIN-FREE EMULSIONS.

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Non-protein emulsions of defined lipid composition have been used to model the metabolism of plasma lipoproteins. In the present work, the effect of increasing the content of triacylglycerol (TG) in lipid dispersions composed of phospholipids (PL) and cholesteryl ester (CE) was tested. We injected intra-arterially in rats six different types of lipid dispersions labeled with analogous radioactive compounds. The first type had 67% PL and 33% CE and no TG. % of these lipids in the ensuing ones was diminished and replaced proportionally by 5, 10, 20,50 and 60% of triolein. Plasma fractional clearance rates (FCR) of radioactively labeled CE, PL and TG were measured from samples taken in regular intervals during 4 hours in the 6 groups. The plasma FCR of the 3 isotopes were positively correlated with TG content. We conclude that each 1% of increase in TG concentration of the lipid dispersions produces an enhancement in FCR of about 20×10^{-5}, 5.8×10^{-5} and 5.6×10^{-5} for TG, CE and PL, respectively. These results can be important to understand the relationship between composition and removal of lipoproteins from plasma.

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