

P010 The modification of triacylglycerol-rich lipoproteins fatty acid composition by minor components of pomace olive oil leads to increased mRNA expression of scavenger receptors in macrophages.

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In the present study, we evaluated the influence of minor components of pomace olive oil (POO) on the composition of the triacylglycerol-rich lipoproteins (TRL) and the expression of macrophage receptors.

TRL were isolated from human serum after the intake of meals enriched in POO or refined olive oil (ROO). The size of the particles, estimated as the ratio triacylglycerol:apolipoprotein B, was higher after the intake of POO. Furthermore, despite the fact that both oils showed the same fatty acid (FA) composition, POO-TRL presented significantly higher content in MUFA and PUFA, and lower in SFA than ROO-TRL.

Both types of TRL were incubated for 24h with macrophages derived from the human monocytes cell line THP-1. The mRNA expression of LDLr was decreased and that of LRP was almost unaffected by both types of TRL, whereas the mRNA expression of the scavenger receptors CD36, SR-A2 and SR-B1 was higher with POO-TRL and seems to be more influenced by the composition and/or size of the particles.

In conclusion, the minor components of POO affect the FA composition of TRL leading to increased mRNA expression of scavenger receptors in macrophages.