

Poster

Effects of minor compounds from virgin olive oil on inflammatory response in human leukocytes



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ABSTRACT

Mediterranean diet protects against cardiovascular diseases such as atherosclerosis, now considered an inflammatory disorder. Virgin olive oil is one of the most important foods in this diet, leading to the suggestion that health benefits of Mediterranean diet are achieved at least partially due to the consumption of virgin olive oil. Extra virgin olive oil (EVOO) is the highest quality oil based on its chemical and sensorial properties. Our aim was to evaluate the anti-inflammatory effects of minor compounds found in the unsaponifiable fraction of EVOO on activated human monocytes and neutrophils. For this purpose, we isolated monocytes and neutrophils from blood samples of healthy volunteers. We also isolated the unsaponifiable fraction (UF) from EVOO. Cells were incubated with UF at different concentrations and the pro-inflammatory stimulus LPS. Afterwards, RNA was obtained from cells and then converted into cDNA. The relative gene expression of pro-inflammatory and anti-inflammatory markers was assessed by qRT-PCR. We found that UF from EVOO reduced relative gene expression of pro-inflammatory markers in a dose-dependent manner both in human monocytes and neutrophils. In contrast, UF from EVOO increased relative gene expression of anti-inflammatory markers in these cells. These findings unveil a role of UF from EVOO in the benefits from consumption of EVOO in disorders related to inflammation.

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