Tipo	Periódico
Título	Synergistic effect rescue animal model from NASH caused by diet-inflammation inducer
Autores	Priscila Busch Furlan, Cibele; Berilli Batista, Patricia; Akemi Kido, Larissa; Garbellini Duft, Renata ; Regina Cavaglieri, Claudia; de Oliveira Carvalho, Patricia; Roberto Maróstica Júnior, Mário
Autor (es) USF	De Oliveira Carvalho, Patrícia
Autores Internacionais	
Programa/Curso (s)	Programa de Pós-Graduação Stricto Sensu em Ciências da Saúde
DOI	https://doi.org/10.1016/j.foodres.2023.113562
Assunto (palavras chaves)	Hass avocado oil, animal model, NASH, diet-inflammation inducer
Idioma	Inglês
Fonte	Título do periódico: FOOD RESEARCH INTERNATIONAL ISSN: 0963-9969 Volume/Número/Paginação/Ano: v. 174, p. 113562, 2023
Data da publicação	20/10/2023
Formato da produção	Impressa
Resumo	Excessive intake of pro-inflammatory fatty acids is related to the development of insulin resistance, impaired oxidative stress enzymes, and lipid disorders, leading to inflammation and development of non-alcoholic steatohepatitis (NASH). Diet and physical exercise are considered to prevent and treat metabolic disorders caused by chronic inflammatory states (responsible for insulin resistance and diabetes type 2) in individuals with obesity and nonalcoholic fatty liver diseases (NAFLD). Our investigation tested the hypothesis that Hass avocado oil, a monounsaturated fatty acid and a source of phytosterol, may improve liver and metabolic parameters without adverse effects when combined with physical exercise. Rats ingested a high-fat diet for seven weeks and were then subjected to more six weeks with a standard diet, Hass avocado-oil ingestion, and swimming. The intervention showed significantly improvements by synergistic effect between Hass avocado-oil and swimming exercise ($P < 0.05$), including improving adiponectin, leptin, and fasting blood glucose levels, alleviating insulin resistance, reducing serum TNF-α, improving glutathione enzyme levels, and decreasing lipotoxicity in the liver and blood and serum triacylglycerides in blood ($P < 0.05$). Liver tissue markers of apoptosis and necrosis such as CK-18 filaments and dimethylamine (DMA) were significantly higher in the intervention group ($P < 0.05$). We were unable to fully confirm our hypothesis. Although the synergistic effects between Hass avocado-oil and the swimming regimen offer a promising chance of recovering liver health by improving 10 health biological markers, we must not ignore the cellular damage due to apoptosis and necrosis in liver cells and DMA. The data on metabolomic profile and avocado-oil-treated livers highlight the need for further investigation.
Fomento	CNPq (grant number 301108/2016-1), FAPESP (grant number 2015/13320-9)