

Anti-oxidative and anti-inflammatory effects of Rosa Mosqueta oil supplementation in rat liver ischemia-reperfusion

Dossi, Camila G.

González-Mañán, Daniel

Romero, Nalda

Silva, David

Videla, Luis A.

Tapia, Gladys S.

© The Royal Society of Chemistry. Ischemia-reperfusion (IR) is a deleterious condition associated with liver transplantation or resection that involves pro-oxidant and pro-inflammatory mechanisms. Considering that Rosa Mosqueta (RM) oil composition is rich in protective components such as α -linolenic acid (ALA) and tocopherols, we studied the effects of RM oil supplementation given prior to an IR protocol. Male Sprague-Dawley rats receiving RM oil (0.4 mL d⁻¹) for 21 days were subjected to 1 h of ischemia followed by 20 h reperfusion. Parameters of liver injury (serum transaminases, histology), oxidative stress [liver contents of protein carbonyls, thiobarbituric acid reactants, Nrf2 activity and its target mRNA expression of heme oxygenase-1 (HO-1) and NADPH-quinone oxidoreductase-1 (NQO-1)] and inflammation [nuclear factor- κ B (NF- κ B) and its target mRNA expression of tumor necrosis factor- α (TNF- α) and interleukine-1 β (IL-1 β)] were studied. RM oil increased liver ALA and its derived