

عنوان مقاله:

Hepatoprotective effect of β -myrcene pretreatment against acetaminophen-induced liver injury

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خلاصه مقاله:

Objective: In the present study, the hepatoprotective effects of β -myrcene (MYR) on acetaminophen-induced hepatotoxicity were investigated. **Materials and Methods:** A total of 40 Balb/c mice were randomly divided into five groups as follows: 1) Normal control group which received only carboxymethylcellulose (CMC), the vehicle used to dissolve acetaminophen (N-acetyl-p-aminophenol, APAP, paracetamol) and MYR; 2) APAP group which received a single dose of acetaminophen (250 mg/kg) orally on day 7; 3) Silymarin group which received 200 mg/kg/day of silymarin; and 4 and 5) pretreatment groups in which, mice were treated with 100 or 200 mg/kg/day of MYR. Liver and blood samples were collected to analyze serum aminotransferases, inflammatory response, oxidative stress markers, and histopathological insults. **Results:** Our results showed that MYR pretreatment attenuated liver damage and restored liver cells function and integrity as it decreased the leakage of serum aminotransferases (alanine and aspartate aminotransferases (ALT and AST, respectively)) into the blood ($p < 0.01$). MYR treatment also reduced levels of myeloperoxidase (MPO) activity and nitric oxide (NO) ($p < 0.001$). In addition, MYR pretreatment demonstrated

significant antioxidant activity by decreasing malondialdehyde (MDA), reactive oxygen species (ROS), and reduced glutathione (GSH) levels ($p < 0.001$). Furthermore, it restored the hepatic level of superoxide dismutase (SOD), catalase (CAT), and oxidized glutathione (GSSG) ($p < 0.001$). Conclusion: For the first time, our results showed that MYR treatment significantly improved liver function by reducing oxidative stress and the inflammatory response induced by .APAP

کلمات کلیدی:

β -myrcene, Antioxidants, Acute hepatic failure, Liver diseases

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