

عنوان مقاله:

Evaluation of amitriptyline-induced toxicity in freshly isolated rat hepatocytes and the protective role of taurine

محل انتشار:

همایش ملی پژوهش های کاربردی در علوم و مهندسی (سال: 1392)

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خلاصه مقاله:

Administration of amitriptyline, a most commonly used tricyclic antidepressant, is associated with anticholinergic side effects and rare but severe hepatotoxicity. It supposed that the intermediated metabolites of amitriptyline produced by CYP450 involved in hepatotoxicity but the exact mechanisms involved in hepatotoxicity are unknown. The aim of this study was to determine the mechanism of hepatotoxicity induced by amitriptyline and protective role of taurine in an in vitro model of isolated rat hepatocytes. Markers such as cell viability, reactive oxygen species (ROS) formation, lipid peroxidation, mitochondrial membrane potential, and hepatocytes glutathione content were evaluated every 60 minutes for 180 minutes. Our results showed that amitriptyline resulted in cytotoxicity characterized by the reduction in cell viability, an increase in ROS formation and lipid peroxidation, mitochondrial membrane potential collapse, and a reduction in cellular glutathione content. Our finding showed administration of taurine (1mM) effectively reduced the toxic effects of amitriptyline in isolated rat hepatocytes

کلمات کلیدی:

Amitriptyline, Taurine, Oxidative stress, Hepatocytes

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