عنوان مقاله:

The Effect of Descurainia Sophia Seed Extract on Nephrotoxicity Markers Induced by Acetaminophen in Mice

محل انتشار:

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خلاصه مقاله:

Background & Objective: Acetaminophen is known as the most common agent which causes hepatic and renal toxicity in human and experimental animals at supra-therapeutic doses. The current study investigated the protective effects of Descurainia sophia seed extract on the acetaminophen-induced nephrotoxicity markers in male mice. Materials & Methods: Experimental male mice (n=۶۰, Swiss albino mice) were divided into six groups as follows: Group A (control group), Group B (acetaminophen group), and treatment groups including T۱, T۲, T۳, and T۴ (D. sophia seed extract groups). Toxicity was induced by acetaminophen (۵۰۰ mg/kg). The mice administered D. sophia seed extract for ۷ days in doses of ۵۰, ۱۰۰, ۲۰۰, and ۳۰۰ mg/kg. In the next step, animals were euthanized ۲۴ hours after acetaminophen administration. Blood samples were collected. Serum levels of blood urea nitrogen (BUN), creatinine, and uric acid were analysed. Furthermore, kidney tissues were removed for histopathological examination via haematoxylin and eosin staining. Results: Our data revealed that acetaminophen increased the levels of BUN, creatinine and uric acid (P<۰.۰۵). Pre-treatment of D. sophia seed extract decreased the serum BUN, creatinine and uric acid significantly compared to the acetaminophen group (P<۰.۰۵). Additionally, in histopathological examination, D. sophia extract had restored acetaminophen-induced nephrotoxicity, particularly in the dose of ۳۰۰ mg/kg. Conclusion: The present findings suggested that oral administration of D. sophia seed extract has protective effect against acetaminophen nephrotoxicity in mice.

کلمات کلیدی:

Acetaminophen, BUN, Creatinine, Descurainia sophia seed, Mice, Nephrotoxicity