

عنوان مقاله:

Protective effects of piperine on lead acetate induced-nephrotoxicity in rats

محل انتشار:

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خلاصه مقاله:

Objective(s): In this study, we investigated the protective effects of piperine on lead acetate-induced renal damage in rat kidney tissue. Materials and Methods: Forty male rats were divided into 5 groups: negative control (rats were given aquadest daily), positive control (rats were given lead acetate 30 mg/kg BW orally once a day for 60 days), and the treatment group (rats were given piperine 50 mg; 100 mg and 200 mg/kg BW orally once a day for 65 days, and on 5th day, were given lead acetate 30 mg/kg BW one hr after piperine administration for 60 days). On day 65 levels of blood urea nitrogen (BUN), creatinine, malondialdehyde (MDA), Superoxide Dismutase (SOD), and Glutathione Peroxidase (GPx) were measured. Also, kidney samples were collected for histopathological studies. Results: The results revealed that lead acetate toxicity induced a significant increase in the levels of BUN, creatinine, and MDA; moreover, a significant decrease in SOD and GPx. Lead acetate also altered kidney histopathology (kidney damage, necrosis of tubules) compared to the negative control. However, administration of piperine significantly improved the kidney histopathology, decreased the levels of BUN, creatinine, and MDA, and also significantly increased the SOD and GPx in the kidney of lead acetate-treated rats. Conclusion: From the results of this study it was concluded that piperine could be a potent natural herbal product exhibiting nephroprotective effect against lead acetate induced nephrotoxicity .in rats

کلمات کلیدی:

Antioxidants, Lead acetate, Nephrotoxicity, Piperine, Protective

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