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Evaluation the protective effect of aqueous and hydroalcoholic extract of Portulaca oleracea against the nephrotoxicity of cisplatin in rat.

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Portulaca oleracea is a herbaceous weed from porulace family. It can be found in much of the world modern pharmacological studies have demonstrated that Portulaca oleracea has antioxidant effects. Cisplatin is a very effective drug in the treatment of solid tumours. However, the use of it is limited by renal toxicity. The effects of portulaca oleracea extract on the nephrotoxicity of cisplatin has been studied in rats. Rats were given cisplatin (4 mg/kg, ip) exhibited significant elevation in blood urea nitrogen and serum creatinine concentrations which correlated with appearance of the coincident renal histological change (necrosis, desquamation and eosinophilic casts). Results showed that when aqueous extract (0.2, 0.4, 0.8 g/kg) or a hydroalcoholic extract (0.5, 1.2 g/kg) of portulaca oleracea was administered to rats 6, 12 and also 6, 12 hours before or after (ip) cisplatin, the toxicity of cisplatin was reduced. It be found that prevention is better than treatment and aqueous extract is effective than hydroalcoholic extract. Results suggested that Portulaca oleracea extract protects against cisplatin-induced renal toxicity.

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Possible laxative and prokinetic effects of ethanol extract of bitter almond (Amygdalus communis var. amara) in rats

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Bitter almond has been known as laxative in traditional medicine. However, there is no report based on scientific methodology in this regard. In order to assess the possible laxative and prokinetic effects of bitter almond: 1- two groups of 7 rats were gavaged with ethanol extract of bitter almond (300 mg/kg) or placebo and were regarded as the test and control groups respectively. Thereafter, the number of feces and fecal weight and percentage of water were studied up to 24 h. 2- In order to assess the possible osmotic infiltration of fluids into the intestinal lumen, the jejunal in anesthetized rats (n = 5; pentobarbital sodium: 60 mg/kg) was randomly divided into 4 cm segments and 0.3 ml of ethanol extract of bitter almond (125 or 250 mg/ml), lactulose (as positive control) or placebo (as negative control) was injected in each segment. The volumes of the contents in each segment were measured after 1 h. 3- In order to assess the gastrointestinal transit time, rats were deprived of food and were gavaged with either the extract (250 mg/kg, twice 18 h interval) or placebo. Thirty min following the last medication, all rats were gavaged with phenol red and methylcellulose (1.5 ml). Test and control rats, in groups of 3, were sacrificed at times 30 min, 1, 2 and 4 h, and the amounts of the phenol red in various parts of the gastrointestinal tract were measured. Ethanol extract of bitter almond at a dose of 500 mg/kg had a biphasic laxative effect (significantly reduced feces number up to 18 h while significantly increased fecal weight and water between 18-24 h). It had no significant effects on the osmotic infiltration of fluid into the intestine or on the transit time of the contents in different parts of the gastrointestinal tract. The current results suggest that bitter almond has a biphasic laxative effect that, at least in the used doses, is not mediated vitro osmotic infiltration of fluids, and that transit time of gastrointestinal contents is not affected.

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Kidney and heart aldehyde oxidase activity in diabetic rats and the effects of vitamin E and selenium on the enzyme activity

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There is increasing evidence in both experimental and clinical studies suggesting the involvement of oxidative stress in the pathogenesis of diabetes. Several putative sources of reactive oxygen species (ROS) could potentially contribute to diabetic damages. ROS form as a natural byproduct of the normal metabolism of