

عنوان مقاله:

Effect of Aqueous-Ethanollic Extract of Parsley Leaves (*Petroselinum crispum*) on Antioxidant Content and Bak Gene Expression in Liver Tissue of Rats Treated with Lead Acetate

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خلاصه مقاله:

Background and aim: Heavy metals such as lead have negative effects on different tissues of the body. The aim of this study was to evaluate the aqueous-ethanollic extract of parsley leaves (*Petroselinum crispum*) on the antioxidant content of glutathione (GSH) and glutathione peroxidase (GPX) and the expression of the Bak gene as an active gene in the apoptosis pathway in the liver tissue of adult male rats. Materials and Methods: Rats were randomly divided into 6 groups of 10 including control, Sham, experimental¹ (20 mg/kg lead acetate), experimental² (200 mg/kg extract), experimental³ (20 mg/kg lead acetate and 100 mg/kg extract) and experimental⁴ (20 mg/kg lead acetate and 200 mg/kg extract) were divided. The length of the study period in all groups was 21 days. At the end of the study, blood samples were taken to measure GSH and GPX and liver tissue samples were taken to evaluate Bak gene by real time-PCR method. Results: Lead acetate decreased the antioxidant content of GSH and GPX in rats and in contrast increased the expression of Bak gene. Administering aqueous-ethanollic extract of parsley leaves in rats treated with lead acetate, increased the antioxidant content of GSH and GPX and decreased Bak gene expression. Conclusion: Lead acetate has negative effects on liver tissue by reducing the antioxidant content and increasing the expression of apoptosis genes. However, it seems that the aqueous-ethanollic extract of parsley leaves with antioxidant effects can counteract the harmful effects of lead acetate and improve the antioxidant content and modulate the genes involved in the apoptosis of rat liver tissue.

کلمات کلیدی:

Apoptosis, Parsley, Glutathione, Lead, Rat, آپتوزیس، جعفری، گلو تاتیون، سرب، موش صحرایی

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