

Protective effect of ginger against toxicity induced by chromate in rats

Abstract :

The evaluation of the effect of ginger on the modulation of toxic effects induced by chromate is the objective of our study. 50 male rats Albinos wistar were divided to five groups as follow: group I (T) is served as control, received a mineral water by gavage (per os); group II (G) received an experimental diet with 2% of ginger; group III (Cr) received an oral dose of potassium dichromate (15 mg/kg) and normal diet; group IV (CrG): received an oral dose of potassium dichromate (15 mg/kg) and an experimental diet containing 2% ginger; and group V (Cr+G) received an oral dose of potassium dichromate (25 mg/kg) and an experimental diet with 2% of ginger. The results of this study indicate that the chromate provoked a haematotoxic effect (anemia), nephrotoxic, hepatotoxic, and also a perturbation in lipids profile. In addition, chromate has a pro-oxidant effect, which was indicated by decrease of reduced glutathione (GSH) levels in different tissues. However, the administration of ginger revealed a reduction of the intensity of oxidative stress induced by the chromate resulting in the decrease of the majority of the previous parameters concentrations. In conclusion we demonstrated that ginger has potent antioxidants activity, revealed by the amelioration of chromate's toxic effects. We can say that ginger has a protective effect towards damages induced by the chromate.

Key words: ginger, potassium dichromate, rat, oxidative stress, toxicity

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