

Curative effect of the Egyptian marine *Erugosquilla massavensis* extract on carbon tetrachloride-induced oxidative stress in rat liver and erythrocytes.

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Abstract

OBJECTIVES:

The purpose of the present work was to investigate the effect of marine crustacean extract (MCE) from marine mantis shrimp *Erugosquilla massavensis* and silymarin on oxidative stress induced by carbon tetrachloride (CCl₄) in rat liver and erythrocytes.

MATERIALS AND METHODS:

Male rats were randomly divided into 3 main groups, (1) control group which administered olive oil orally for 2 days, followed by distilled water for 7 consecutive days, (2) MCE group in which rats administered orally MCE, 250 mg/kg body weight for 9 consecutive days and (3) CCl₄-treated group in which rats given CCl₄ orally (2.5 ml/kg body weight) for 2 days. This group then subdivided into 5 subgroups. All subgroups treated orally for 7 consecutive days with distilled water (subgroup I), silymarin, 150 mg/kg body weight (subgroup II) and MCE at three tested doses 50, 100 and 250 mg/kg body weight (subgroups III, IV and V).

RESULTS:

The MCE and silymarin produced significant hepatoprotective effect by decreasing the activity of serum aminotransferases (ASAT and ALAT) and alkaline phosphatase (ALP) as well as malondialdehyde (MDA) level, and increasing the serum total protein, glutathione reduced (GSH) levels and the activities of glutathione-S-transferase (GST) and catalase (CAT). The MCE and silymarin also showed the same antioxidant effect on erythrocytes.

CONCLUSIONS:

The results of the present study, suggested that, the MCE could protect the liver and erythrocytes injuries perhaps, by its antioxidative effect, hence eliminating the deleterious effect of toxic metabolites from CCl₄.

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