Hepatoprotective Effects of Vitamin C, DPPD, and L-cysteine Against Cisplatin-Induced Oxidative Stress in Male Rats

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Abstract:

Cisplatin (CP) is considered as a major antineoplastic drug against a broad spectrum of malignancies. CP acts on cancer cells by releasing free radicals which at the same time damage liver and kidney cells. In this study, we aimed to investigate the hepatotoxicity of CP which it may be mediated by oxidative stress and to establish whether some antioxidants, Vit C, DPPD and L-cysteine, may provide protection against CP hepatotoxicity. 40 rats were divided into 5 groups. G1 work as control, G2 injected with CP alone, G3 was injected with CP & Vit C, G4 was injected with CP & DPPD, G5 was injected with CP & L-cysteine. CP-induced oxidative stress was indicated by ↑ LPO and O2- in hepatic tissue and plasma. Also, CP induced decline of SOD, CAT, GST and GGT and a ↓ level of GSH, Vit C and Vit E in hepatic tissue and plasma. Treatment with Vit C, DPPD and L-cysteine in combination with CP restored LPO and O2-, the activities of SOD, GST, CAT and GGT and the content of GSH, Vit C and Vit E to control levels

Keywords:

Cisplatin, Hepatotoxicity, DPPD, Vitamin C, L-cysteine, Oxidative stress, Rats, Chemotherapy

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