

Effects of Purslane Shoot and Seed Ethanolic Extracts on Doxorubicin-Induced Testicular Toxicity in Albino Rats

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Abstract : The clinical usefulness of anthracycline antineoplastic antibiotic, doxorubicin (DOX) is restricted since it has several acute and chronic side effects. The effect of doxorubicin (4 mg/kg b.w/week) without or with oral administration of purslane (*Portulaca oleracea*) shoot ethanolic extract (50mg/kg b.w./day) and purslane seed ethanolic extract (50mg/kg b.w./day) co-treatments for 6 weeks was evaluated in adult male rats. Serum testosterone luteinizing hormone (LH), follicle stimulating hormone (FSH) level were assayed. Testis lipid peroxidation (indexed by MDA) and antioxidants like glutathione (GSH), glutathione-S-transferase (GST), peroxidase (POX), superoxide dismutase (SOD), catalase (CAT) levels in testis were assessed. The data revealed a significant decrease in serum levels concentration of testosterone, LH and FSH levels in doxorubicin-injected rats. In addition, testis glutathione, glutathione transferase, peroxidase, SOD and CAT levels were decreased while lipid peroxidation concentration in the testis was increased as a result of doxorubicin injection. Co-administration of ethanolic purslane and seed extracts potentially improved the adverse changes in serum testosterone, luteinizing hormone (LH), follicle stimulating hormone (FSH) levels with an increase in testis antioxidants levels and reduction in lipid peroxidation. In conclusion, it can be suggested that dietary purslane extract supplementation may provide a cushion for a prolonged therapeutic option against DOX testicular toxicity without harmful side effects.

Keywords : doxorubicin, purslane, testis function, antioxidants

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