



Paper No. ()

Title: Ameliorative effects of garlic extract against adriamycin induced nephrotoxicity in ehrlich ascites carcinoma bearing male mice

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Egyptian journal of Zoology, Dec., (64). 2015

ABSTRACT

The present study aimed to assess the protective role of garlic extract against adriamycin (ADR) induced nephrotoxicity in healthy and Ehrlich ascites carcinoma (EAC) bearing male mice. Sixty four Swiss albino male mice, (22 ± 2-g) 6-8 weeks old were used and divided into eight groups each one consisted of 8 male mice as follows: 1st control group, 2nd garlic group, 3rd ADR group, 4th garlic /ADR group, 5th EAC group, 6th EAC/Garlic, 7th EAC/ADR group and 8th EAC/ Garlic extract/ADR group. Serum creatinine, blood urea nitrogen (BUN) and histopathological changes in the kidney tissue were studied by light and electron microscopes. The results of this study revealed many toxicity symptoms such as elevation in serum creatinine and BUN levels in ADR or/and EAC bearing mice comparing with control and all garlic groups. Also, many histopathological lesions as inflammation, vacuolation, apoptosis, necrosis, fibrosis of the renal tubule cells, were recorded in ADR or/and EAC groups. Glomeruli had luminal deformity leading to an increase in the plasma viscosity. Podocytes were recognized with irregular pyknotic nuclei fused foot processes or effacement of pedicles and irregular thickness basement membrane. Degenerated proximal and distal tubules cells were seen with interrupted tubule contours. Swollen endoplasmic reticulum and/or deteriorated mitochondria were also seen. In contrast, the treatment with garlic aqueous extract decreased creatinine, BUN as well as the lesions of most previous histopathological alterations. This study revealed that garlic extract may ameliorate the cytotoxic effect of ADR in normal and EAC bearing mice as indicated by biochemical and histological results.

Keywords: Adriamycin, EAC, garlic, Creatinine, BUN, Kidney, Histopathology

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