جامعة الفيوم
كليه العلوم
قسم علم الحيوان

ملخص البحث رقم (٢)

Egypt. J. Zool., Volume 69, Issue 69, winter and spring 2018, Page 207-225

GRAVIOLA LEAVES EXTRACT AMELIORATING THE RENAL ALTERATIONS INDUCED BY FOOD ADDITIVE "MONO-SODIUM GLUTAMATE" IN MALE ALBINO RATS

[1]Eman M. Abd-Ella; [1]Abd Elkarim M. Abd Ellatief; [2]Ola Nabil
[1]Zoology Department - Faculty of Science - Fayoum University – Fayoum – Egypt.
[2]Chemistry Department - Faculty of Science - Fayoum University – Fayoum – Egypt.

The protective effects of *ANNONA MURICATA* LINN leaf extract (Graviola) against the possible renal toxicity induced by oral administration of the Monosodium glutamate (MSG) for 4 weeks in male albino rats (*Rattus albus*) was investigated. The rats were divided into 4 groups. Control group (group I) received daily 1ml of distilled water for 4 weeks. Treatment group (group II) received the Graviola leaf extraction in a daily dose of 100 mg/kg., body weight for 4 weeks. Initiation group (group III) received monosodium glutamate dissolved in distilled water in a daily dose of 4mg/kg., body weight for 4 weeks. Therapeutic group (group IV) received monosodium glutamate for 4 weeks followed by Graviola leaf extracte for another 4 successive weeks. The kidney tissues were examined for the histopathological observations, the histochemical studies by determination of total carbohydrates by PAS method and total protein by Bromophenol blue staining method and the alterations in BCL-2 and Caspase-3 protein expression. MSG treatment led to histological and histochemical alterations in the kidney tissues where inflammatory cellular infiltration in interstitial tissues and associated focal areas of glomerular atrophy were noticed. Dilatation and focal hemorrhage between the tubules were seen clearly. Total carbohydrates depletion was greatly in the glomerular tuft and the basement membrane as indicated by decreasing in the stain ability of PAS-positive materials in addition a marked reduction of the protein content in the renal tubular cells was observed.

MSG treatment up-regulated BCL-2 and Caspase-3 expression as an apoptotic features, which were significantly increased ($p<0.05$) was also observed.The present findings confirmed the protective and therapeutic effects of *Annona muricata* LINN leaf extract (Graviola) on MSG induced alterations in the kidney tissues in male albino rats.