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BIOCHEMICAL STUDIES OF THE ANTIOXIDANT EFFECT OF *HIBISCUS ROSA SINENSIS* AND POMEGRANATE (*PUNICA GRANATUM*) PEELS AQUEOUS EXTRACTS ON ALBINO RATS

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ABSTRACT

The objective of the present study is to investigate the effect of the daily oral administration of *Hibiscus rosa sinensis* leaves aqueous extract [AEHRS leaves] at low, medium and high doses (250, 500 and 750 mg/kg body weight), also, pomegranate (*Punica granatum*) peels aqueous extract [AEPP] at low, medium and high doses (100, 200 and 300 mg/kg body weight) beside their mixture at four doses for healthy rats (125/125, 225/225 ,350/350 and diabetic rats treated with a mixture of AEHRS leaves and AEPP 400/400 mg/kg body weight) as a natural products on lipid peroxidation (LPO) and the activity of the antioxidant defense enzyme of rats after 7, 14 and 21 days in order to affirm the protective role of the previous natural products extracts. The animals were randomly divided into various treatments twelve groups (n=6). The normal control group (I) of animals did not receive any extracts whereas group (II) as a diabetic control (diseased control group) which treated with streptozotocin (STZ) only induced oxidative stress . Assessment lipid peroxidation (LPO) and the activity of the antioxidant defense enzyme (AADE) have been carried out by measuring malondialdehyde (MDA), determination of malondialdehyde precursor in serum by the colorimetric reaction of thiobarbituric acid test and superoxide dismutase (SOD) activity respectively. Results showed MDA level was decreased and SOD level was increased significantly by given AEHRS leaves, AEPP and their mixture into normal and diseased rats when compared to normal (I) and diabetic (II) control groups. These results clearly indicate that the extracts (AEHRS leaves, AEPP and their mixture) possess significant antioxidant activity.

Key words: enzymatic antioxidants, *Hibiscus rosa sinensis* leaves, lipid peroxidation,Malondialdehyde (MDA), *Punica granatum* peels, superoxide dismutase (SOD), rats.