Journal

J. Biol. Chem. Environ. Sci., 2017, Vol. 12(3): 583-600
http://biochenv.blogspot.com.eg/

BIOCHEMICAL EVALUATION OF AQUEOUS EXTRACT OF HIBISCUS ROSA SINENSIS LEAVES AND POMEGRANATE PEELS ON KIDNEY FUNCTION IN ALBINO RATS

Mahmoud, Sh.S. El-Sayed

Agricultural Biochemistry Department, Faculty of Agriculture, Ain Shams University, Cairo, Egypt.

ABSTRACT

Hibiscus rosa sinensis (HRS) leaves contain various secondary metabolites such as saponins and tannins, which are known to possess documented pharmacological activities. Pomegranate (*Punica granatum*) has strong anti-inflammatory, antiobesity, antioxidant and anticancer effects. The present investigations clarify the effect of an aqueous extract of Hibiscus rosa-sinensis leaves (AEHRS leaves), and the aqueous extract of pomegranate (*punica granatum*) peels (AEPP) as well as their mixture on kidneys function using male albino rats bioassay. Male albino rats (72 animals) were divided into twelve groups, 6 rats each. Group (I), served as normal control group. Group (II) injected with a single intramuscular dose of 25% glycerol (10 ml/Kg bw) which induced renal failure in rats (glycerol treated group).Groups (III),(IV) and (V) animals (normal) were given AEHRS leaves (250, 500 and 750 mg/kg, b.w., daily oral, for 21 days, respectively). Groups (VI) and (VIII) animals (normal) were given AEPP by doses of 100 and 300 mg/kg, b.w., daily oral, for 21 days, respectively whereas group (VII) given (25%glycerol (10ml/kg bw)) treated group+ AEPP 200 mg/kg bw .daily oral, for 21 days. Groups (IX), (X) , (XI) and (XII) animals (normal) were given mixture of both extracts of 125/125, 225/225, 350/350 and 400/400 mg/kg, b.w., daily oral, for 21 days, respectively. Estimation of serum creatinine, urea and uric acid levels were done after 7, 14 and 21 days. The obtained results showed a significant decrease in serum creatinine and urea (Bu) levels as well as sporadically alteration decreasing found in serum values for uric acid when compared to glycerol intoxicated group (II). Also, the results suggested that the renoprotective efficacy of AEHRS leaves, AEPP and their mixture,can be attributed to antioxidant and anti-inflammatory roles.

Key words: aqueous extract, *Hibiscus rosa sinensis*, Kidney function, Pomegranate (*Punica granatum*) peels, protective effect.