

EFFECT OF SOME PLANT EXTRACTS ON RENAL FUNCTIONS IN EXPERIMENTAL ANIMALS

By

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B.Sc. Agric. Sc. (Agric. Biochemistry), Ain Shams University, 2000

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ABSTRACT

REDA NEAMAT ALLAH MOHAMED ELFADL: Effect of some Plant Extracts on Renal Functions in Experimental Animals. Unpublished M.Sc. Thesis, Department of Agricultural Biochemistry, Faculty of Agriculture, Ain Shams University, 2018.

Acute renal failure (ARF) was induced by glycerol or paracetamol in experimental rats to evaluate the curative effects of gum Arabic and *Boswellia* sp. through different blood biochemical assays and hematological analyses. Results revealed presence of significant ($P<0.05$) increases in the levels of urea, creatinine, potassium (K^+), sodium (Na^+), chloride (Cl^-) and blood acidity (H^+), and significant ($P<0.05$) decreases in the levels of calcium (Ca^{+2}) and bicarbonate (HCO_3^-) in serum of rats treated only with glycerol or paracetamol in the positive control groups compared to the negative control group. These results indicated that glycerol or paracetamol caused ARF in these groups of rats whereas the blood analyses illustrated ARF symptoms such as increasing of urea and creatinine, hyperkalemia, hypocalcemia, hypoglycemia, blood acidosis and anemia occurring in the positive control groups. The blood analyses also illustrated recovery of these symptoms in the treated rats with gum Arabic and *Boswellia* sp. in drinking water (10% w/v) for 30 days. This indicated the curative effects of gum Arabic and *Boswellia* sp. against ARF induced by glycerol or paracetamol as evidenced by restoring the kidney function tests such as urea, creatinine, blood electrolytes and other parameters like serum glucose, proteins and hematological indices to their normal values during the experiment period. The therapeutic effects of both plants against ARF may be due to their antioxidant and/or anti-inflammatory activity.

Keywords: Acute Renal Failure, *Boswellia* sp., Glycerol, Gum Arabic, Paracetamol, Rats.

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