Attenuation of Glycerol-Induced Acute Renal Failure in Albino Rats by Soy Beans (*Glycine max*)

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Abstract : The health benefit of soybean consumption has currently gained the attention of researchers. The aim of this study was to investigate the effect of soymilk onrenal biochemical parameters and histopathology of glycerol-induced acute renal injury in rats. In this study, twenty-four (24) albino wistar rats weighing (200-250g) were divided into four (4) groups with six (6) animals per cage: group A served as normal control group and received only distilled water, group Bas positive control and was given glycerol plus vitamin C (200mg/kg, oral), group C, the negative control was given 50% glycerol alone (10ml/kg, i.m.), and group D, the test group was given glycerol plus soymilk (2000mg/kg, oral). Renal injury was assessed by analysing renal histopathology and biochemical parameters such as: Na^+, K^+, Cl^-, HCO_3^-, creatinine and blood urea nitrogen (BUN) levels. The Glycerol treatment resulted in marked elevation of:K^+ (8.66±0.64mmol/l); creatinine (1.47±0.23 mg/dl);and BUN (44.39±5.78 mg/dl) and caused deranged renal functions which were significantly attenuated after soymilk treatment: K^+ (6.51±0.33 mmol/l); creatinine (0.88±0.005 mg/dl); and BUN (19.67±1.45 mg/dl) with[$P < 0.05$].Based on these results, this study demonstrates the potential beneficial effects of soy bean against glycerol-induced acute renal failure in rats.
Key words : Renal injury, myoglobinuria, glycerol, soy bean, soymilk, attenuation.

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