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OP 10 - Evaluation of the Nephroprotective Activity and Acute Toxic Effects of Leaf Extract of *Abelmoschus moschatus* in Experimental Rats

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Background: A revival of interest in the use of medicinal plants as nephroprotective agents has emerged worldwide recently as a source of new drug lead molecules targeting the management of renal diseases. Many medicinal plants have been detailed in Sri Lankan traditional medicinal pharmacopoeias, however a scientific scrutinization has not been carried out for most of the plant species.

Objectives: To evaluate the nephroprotective activity of the leaf extract of *Abelmoschus moschatus* (common name; Kapukinissa, Family; Malvaceae) and to determine its acute toxic effects on adriamycin induced nephrotoxic rats and on healthy rats respectively.

Methodology: The nephroprotective activity of the lyophilized powder of the aqueous refluxed (4 hr) leaf extract was investigated in adriamycin (20 mg/kg, ip) induced nephrotoxic Wistar rats (n=6/group). The plant extract was orally administered at three selected doses (200, 400 and 600 mg/kg) for three consecutive days following the induction of nephrotoxicity in Wistar rats. Fosinopril sodium (0.09 mg/kg) was used as the standard drug. Nephroprotective activity was assessed by estimating selected biochemical parameters and by assessment of histopathology. Acute toxicity studies of the aqueous plant extract were carried out in healthy rats.

Results and conclusions: The plant extracts at the selected doses reduced the increase in serum creatinine concentration by 23%, 40%, and 40% in nephrotoxic rats respectively. The serum concentration of albumin (1%, 9% and 8%) and total protein (16%, 16% and 20%) were increased significantly ($p<0.05$). The loss of urine total protein was decreased significantly (51%, 55% and 83%) with the increased dose of *A. moschatus* in nephrotoxic rats ($p<0.05$). Histopathological findings corraborated the biochemical results. Neither mortality nor behavioural changes were observed in healthy rats. The results revealed that the aqueous leaf extract of *A. moschatus* possesses significant dose dependent nephroprotective activity in adriamycin induced nephrotoxic rats. Further the extract did not show acute toxic effects in healthy Wistar rats.

***Keywords*:** *Abelmoschus moschatus*, adriamycin- induced nephrotoxicity, acute toxic effects