

Hepatoprotective and nephroprotective effects of *Cnidoscolus aconitifolius* in protein energy malnutrition induced liver and kidney damage

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ABSTRACT

Introduction This study was designed to evaluate the ameliorative and hypocholesterolemic effects of dietary supplementation of *Cnidoscolus aconitifolius* leaf meal (CALM) on hepatic injury and kidney injury associated with protein energy malnutrition (PEM). **Materials and Methods** In this study, PEM was induced in weaning male Wistar albino rats by feeding them with low protein diet for 2 weeks. The effects of several recovery diets containing 20% soya protein or 20% *C. aconitifolius* in place of soya protein or 10% soya proteins with 10% *C. aconitifolius* or commercial rat feed were assessed in PEM rats. Plasma biochemical parameters were assessed as well. **Results** After the induction of PEM, results obtained showed significant increase in alkaline phosphatase (ALP), alanine aminotransferase (ALT), aspartate aminotransferase (AST), total proteins (T.P), total bilirubin (T.Bil), triglycerides, total cholesterol, low density lipoproteins (LDL), blood urea nitrogen (BUN), and creatinine with significant reduction in plasma high density lipoproteins (HDL), albumin, sodium (Na⁺), potassium (K⁺), chloride (Cl⁻), bicarbonate (HCO₃⁻), and phosphate (PO₄²⁻) in PEM rats. Upon introduction of recovery diets containing 20% soya protein or 20% *C. aconitifolius* in place of soya protein or 10% soya proteins with 10% *C. aconitifolius* or commercial rat feed for 4 weeks caused significant ($P < 0.05$) reduction in plasma values of ALP, ALT, AST, T.bil, T.P., LDL, total cholesterol, triglycerides, BUN, creatinine, and significant increase in HDL and complete restoration of plasma electrolytes. **Conclusions** *C. aconitifolius* in protein deficient diets has a protective role against hepatic injury and renal damage associated with PEM.

KEYWORDS

Cnidoscolus aconitifolius leaf meal . hepatic injury . protein energy malnutrition . plasma biochemistry

REFERENCES