



Research article

Curative potential of *N. cadamba* methanol fruit extract on experimentally induced urolithiasis in rats

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Abstract

The formation of kidney stone/renal calculi is a complex process including several physicochemical events results in urinary supersaturation and leads to nucleation, growth, aggregation and retention of crystals within the kidneys. Nephrolithiasis is a serious health problem in all societies and worldwide in distribution. Several epidemiological data and clinical studies have reported that calcium oxalate (CaOx) followed by calcium phosphate are the frequently encountered stones in majority of kidney stones. The present study focused on the calcium oxalate induced nephrolithiasis in Wistar albino rats. Five groups of animals were used for the study. Group I, II and III were considered as control received normal drinking water, antilithiatic drug and ethylene glycol respectively for a period of 28 days. Group IV and V were supplemented with the methanol fruit extract of *N. cadamba* (MFNC) at low dose and high dose after inducing kidney stone. After the experimental period, calcium and phosphorus levels in kidneys and urine, urinary protein, serum creatinine, urea and uric acid in urine sample and microscopic analyses of urine samples were carried out on day 28. Pizzalto's staining methods were used to evaluate the amount and deposition of kidney stones. The results of the study suggested that the extract administered groups showed significant reduction in the stone forming constituents in blood, urine and kidney as compared to the lithiatic groups.