

Evaluation of Antiurolithiatic Activity of *Lawsonia inermis* Linn. in Rats

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Received December 8, 2016; accepted January 12, 2016

ABSTRACT

Lawsonia inermis Linn., commonly called as Henna belongs to family *Lythraceae*. Traditionally, it has been reported to have therapeutic activity in bronchitis, diabetes, antimicrobial, antibacterial, trypsin inhibitory, cytotoxicity, wound healing, antioxidant, anti-inflammatory, analgesic. However, the antiurolithiatic activity of the bark extract of *L. inermis* Linn. is not known. In this study, we investigated protective effect of the alcoholic extract of *L. inermis* bark against ethylene glycol induced urolithiasis and its possible underlying mechanisms using male wistar albino rats. Animals were divided into seven groups and urolithiasis was induced by ethylene glycol (0.75% v/v) in drinking water for 28 days. Methanolic extract of *Lawsonia inermis* (MELI) bark (300 & 500 mg/kg, p.o.) were administered once daily from 15th day to 28th day as curative regimen

and from 1st day to 28th day as preventive regimen. Cystone (750 mg/kg, p.o.) was used as a standard drug. After 28 days, various biochemical parameters like urine volume, pH were measured. Calcium, phosphate and oxalate were measured in urine and kidney homogenate. Serum creatinine, uric acid and urea nitrogen were estimated. Histopathology of kidney also studied. Treatment with the MELI extract significantly restored all elevated parameters including calcium, phosphate and oxalate in urine and kidney homogenate; creatinine, uric acid and urea nitrogen in serum when compared to model control group. The histopathological study of the kidney also supported the above results. It can be concluded that methanolic extract of bark of *Lawsonia inermis* Linn. has significant antiurolithiatic effect in experimental rats.

KEYWORDS: *Lawsonia inermis* Linn.; Ethylene glycol; Urolithiasis; Cystone.