Abstract

Urolithiasis or kidney stone is a common disease where world burden was counted as average 10%. Calcium-containing stones, especially calcium oxalate stones were predominant among all stone cases. There are total 80% cases of calcium stones. Ayurveda explored the herbs for kidney stone under ‘Pashanbhed’ (stone breakers). Plants that grow in the crevices of rocks are considered as pashanbhed. In the present study, lepidagathis herbs, which grow in the crevices of rocks in Karnataka (Western Ghats) were explored for antiurolithiatic activity. Bioactivity guided fractionation (BAGF) was the approach used for the study. An in vitro nucleation and aggregation were two assays used to screen herbs colorimetrically at 620 nm for antiurolithiatic activity. WHO standardization of, *L. prostrata* was performed. Methanol extract fractionated to get pet ether, ethyl acetate, butanol and aqueous fractions. Ethyl acetate fraction was found active and subjected to isolation and in vivo activity in ethylene glycol ammonium chloride induced urolithiasis in rats. Lupeol, stigmasterol, quercetin and chlorogenic acid were isolated/identified along with other 48 known compounds from ethyl acetate fraction. Urine and serum parameters such as calcium, creatinine, uric acid were significantly (p < 0.05) elevated in diseased control. Treatment of *L. prostrata* (ethyl acetate fraction) was found effective in normalizing elevated parameters. Urine oxalate was the major marker of the study which was significantly (p < 0.05) normalized in treatment group from diseased control. Other compounds subjected to antiurolithiatic in vivo study were gallic acid and quercetin. The gallic acid was found more potent in inhibiting calcium oxalate urolithiasis. To conclude, mid-polar compounds from *L. prostrata* were found an effective and promising candidate for urolithiasis.

**Keywords:** Urolithiasis, calcium oxalate, *L. prostrata*, pashanbhed