

## PP 33 - Evaluation of Antiurolithiatic Potential in *Crataeva religiosa* (Lunuwarana)

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**Background:** Urolithiasis is the condition where urinary calculi are formed in the urinary tract and is identified as one of the most prevalent diseases worldwide. None of the known and available treatments could prevent the recurrence of kidney stone formation. However, a number of plant species are used in traditional systems of medicine to treat and/or prevent urinary calculi. *Crataeva religiosa* (lunnuwarana) is one of the medicinal plants employed in indigenous medicine in Sri Lanka to dissolve kidney stones and to treat other urinary disease conditions.

**Objectives :** The objectives of the present study is to evaluate the effect of *C. religiosa* on kidney stones and to determine the effective concentration/strength of the plant extract needed to exert antiurolithiatic effect.

**Methodology:** Three kidney stones were taken from patients who underwent kidney stone surgery and the stones were crushed to homogenize the sample. Methanol extracts of bark of *C. religiosa* was prepared at different concentrations (62.5-2000 µg/mL) and kidney stones were dissolved in different concentrations of the extract. At 24, 48 and 72 hours, the reduction in weight and percentage weight change were simultaneously determined. The results were compared with a marketed polyherbal combination, cystone.

**Results and conclusions:** Methanol extract of bark of *C. religiosa* has proved that its antiurolithiatic potential was statistically equal to that the standard drug, cystone. The maximum mean percentage weight loss (3.3073%) was observed at 2000 µg/mL concentration. The mean percentage weight loss was found to be directly proportional to the increase in concentration and was time dependent. The highest mean percentage weight loss of kidney stones was observed at 72 hours. Thus our study indicated that the bark of *C. religiosa* is a potent and promising antiurolithiatic agent, which is in accordance with its use in traditional medicine.

**Keywords:** antiurolithiatic, *Crataeva religiosa*, urinary calculi