

***In vitro* antiurolithic effect of Siddha drugs with and without adjuvant on oxalate stones**

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**Background and objective:** Siddha drugs are indicated for the management of urolithiasis and coconut water is used as the adjuvant in indigenous medicine. This study was carried out to evaluate the *in vitro* antiurolithic effects of Siddha drugs *Silasaththu paspam*, *Nandukkal paspam* and *Venkara paspam* with coconut water (as the adjuvant) on oxalate stones collected by the Department of Biochemistry, Faculty of Medicine, University of Jaffna.

**Methods:** This is a laboratory-based experimental study design. Constituents in the Siddha drugs, adjuvant (coconut water) and their mixtures were analysed for calcium, magnesium, oxalate, uric acid, inorganic phosphate and citrate. For the *in vitro* antiurolithic activity evaluation, the oxalate stones were treated three times with each Siddha drug, adjuvant (coconut water) and their mixtures. Deionized water with the stone was used as the control. The solutions were decanted after 24 hours and fresh solutions were added into each tube. Soluble ions in every solution were calculated each day for 6 consecutive days.

**Results:** Without adjuvant, *Silasaththu paspam* had the best *in vitro* antiurolithic activity on calcium solubility [1.888 ( $\pm$ 0.95) mg] ( $p < 0.05$ ). *Nandukkal paspam* had the best *in vitro* antiurolithic effect on oxalate solubility [1.167 ( $\pm$ 0.71) mg]. *Venkara paspam* had the lowest *in vitro* effect on both calcium [1.129 ( $\pm$ 0.55) mg] and oxalate [0.954 ( $\pm$ 0.55) mg]. Drugs with adjuvant had better *in vitro* antiurolithic activity than deionized water, Siddha drug and adjuvant (coconut water) alone. *Silasaththu paspam* with adjuvant gave the best *in vitro* effect on calcium [2.297 ( $\pm$ 1.25) mg] and oxalate solubility [1.869 ( $\pm$ 1.00) mg] ( $p < 0.05$ ).

**Conclusion:** *Silasaththu paspam* with adjuvant (coconut water) demonstrates the best *in vitro* antiurolithic effect on both calcium and oxalate solubility on oxalate stones.

**Keywords:** Antiurolithic, Coconut Water, Oxalate Stone, Siddha Drugs