

## OP 8

### ***In vitro* litholytic effect of commonly used siddha drugs and the aqueous extract of *Tribulus terrestris* as an adjuvant on oxalate stone**

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**Background:** Urolithiasis is a disease that forms stones in any part of the urinary tract, composed of organic matrix and organic and/ or inorganic crystalloids. Even though there were several medical and surgical interventions to treat, patients prefer Siddha drugs as they have fewer adverse effects. The adjuvant *Tribulus terrestris* is used commonly because of its lithotriptic property and highest dissolution of calcium oxalate, as oxalate stones are the typical type found in Sri Lanka.

**Objective:** The study aims to evaluate the *in vitro* litholytic effect of commonly used Siddha drugs *Nandukkal* (Fossil crab) *paspam*, *Silasaththu* (Gypsum) *paspam*, and *Venkara* (Borax) *paspam* on oxalate stones with and without the *Tribulus terrestris* as adjuvant.

**Methods & Materials:** Oxalate stones, each weighing 75 mg, obtained from a patient who underwent a surgical intervention was treated with fresh solutions of each Siddha drug in 15 ml of deionized water, adjuvant, and the mixtures of each Siddha drug with adjuvant, and incubated under 37°C for seven days in 24 h intervals. Deionized water was used as the control. The solutions were estimated for calcium, magnesium, inorganic phosphorus, uric acid and oxalate, mean comparisons were analyzed using T-test in IBM SPSS version 25.0. Value of  $p < 0.05$  was considered significant.

**Results:** Cumulative release of calcium into each of *Silasaththu paspam*, *Nandukkal paspam*, and *Venkara paspam* with the adjuvant were 3.233 ( $\pm 0.52$ ), 2.939 ( $\pm 0.68$ ), and 2.084 ( $\pm 0.63$ ) mg respectively while cumulative release of oxalate into above were 3.058 ( $\pm 0.62$ ), 2.893 ( $\pm 0.79$ ) and 2.216 ( $\pm 0.76$ ) mg respectively, thus statistically significant, highest *in vitro* litholytic activity on calcium ( $p=0.001$ ) and oxalate ( $p=0.001$ ) were shown by *Silasaththu paspam* with adjuvant.

**Conclusion:** Even though all selected Siddha drugs showed better *in vitro* litholytic activity with adjuvant rather than alone, *Silasaththu paspam* with adjuvant showed the best *in vitro* litholytic activity.

**Acknowledgement:** The Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Jaffna for the financial assistance.