

# Siddha Management of Geriatric Urolithiasis (*Kallataippu- XA*) - A Single Case Report

## Case Report

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## Abstract

**Introduction:** *Kallataippu* (NSMC-XA, Urolithiasis or Nephrolithiasis) is one of the most common emerging urological disorders worldwide with an increasing frequency in geriatric patients (>65 years). Siddha system provides oral medications for the management of urolithiasis which is non-invasive and cost effective. **Method:** A 68-year-old patient approached the OPD with complaints of episodic flank pain radiating from the loin to the groin region, pain, and an urge to urinate. On interrogation, the patient gave a history of poor water intake. Ultrasound scan of the abdomen revealed the renal calculi measuring 3 mm noted in the mid-pole calyx of the right kidney, 4 mm in the upper pole calyx of the left kidney and the Urinary bladder is partially distended with a 4.0 mm thickened wall. It was diagnosed as *Kallataippu* (XA- Urolithiasis) based on signs and symptoms and investigational reports. The patient was administered a combination of medicines based on the Siddha line of treatment. **Result:** In the first follow-up, the patient informed that he experienced moderate pain and disturbance in the urine flow and the first stone was expelled out through urine on the second follow-up. The patient got moderate relief from pain in the abdomen and did not experience dysuria, and the second stone was expelled through urine on the third follow-up. The patient was asked to take CT-KUB on the fourth follow-up. The reported case has a prospective follow-up for 6 months and was found to be free of renal stone-related complaints. **Conclusion:** The present work suggests that the combination of Siddha drugs markedly worked well on the disintegration and expulsion of the calculi in the geriatric age.

**Keywords:** Urolithiasis, *Kallataippu*, *Siddha formulation*, Geriatric, Case Report.

## Introduction

Urolithiasis is the formation of urinary calculi at any level of the Urinary tract(1). It may cause a higher morbidity rate in older people than in younger people, mainly due to urinary tract infections, fornix rupture, pyelonephritis, or urosepsis(2). Urolithiasis is prevalent with an expectancy of 10-12% and an estimated incidence of 0.1-2% in elderly people(3). The changes in food habits due to rapid globalization and packaged food products have been considered a widely recognized risk factor for kidney stone formation(4).

According to WHO International Standard Terminologies on Siddha medicine, urolithiasis(5) or renal calculi is correlated with *Kallataippu* (NSMC-XA) (6) which can be defined as gradual or sudden obstruction to the flow of urine, agonizing pain experienced at the tip of the penis if the calculus attempts to expel, Colicky pain radiating from the loin to groin, passing of small sand like stones along with

urine by derangement of *Vali* and *Azal* (7). Shockwave Lithotripsy (SWL) and Percutaneous Nephrolithotomy (PCNL) are the least invasive surgical management of urolithiasis which sometimes can cause infections due to the passage of residual stone fragments (8). It was found that post-operative medical complications were significantly higher in patients with comorbidities in the elderly population (9). So, the intervention of Siddha oral medication which is a non-invasive procedure is in great demand to overcome this shortage. This article briefly hypothesizes the efficacy of Siddha formulations in the management of urolithiasis in the Geriatric age as a non-invasive method and minimal or no complication.

## Case presentation

It is a single case report and the patient's informed consent is taken in his language.

## Patient information

The information on the patient and vitals is given in Table 1

## Present medical history

A 68-year-old male residing in Bengaluru visited OPD of Siddha Clinical Research Unit (CCRS), Bengaluru with complaints of episodic flank pain radiating from the loin to groin region, urgency with

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difficulty, and mild pain during urination for 10 days. He consulted a nearby allopathic physician and got symptomatic relief. Within a few days, the pain started worsening and an Ultra sonogram abdomen was done. He opted for the Siddha treatment in Siddha Clinical Research Unit (CCRS), Bengaluru and the treatment plan started as mentioned in Table 2.

**Past medical history**

He has no history of Diabetes mellitus, Hypertension, or any other systemic ailment. He had a history of recurrent stone formation since age 50.

**Table 1: Information of the patient**

Name (Initial)	Mr.G
Age	68
Sex	Male
Marital status	Married
Occupation	Retired

**Clinical findings**

The patient was of *Azhal Vali thegi* (psychosomatic constitution) and the physical examination revealed that he was conscious, oriented, normal palpebral conjunctiva, mild tenderness over left flank and overweight having a body mass index of 27.6 with a height of 158 cm and weighing about 69 kg. The respiratory and cardiovascular systems were found to be normal. Pulse rate-74/min, BP- 130/80 mm Hg, RR- 21/min, Temperature- 98.7° F, Urine- painful micturition, Bowel- Unsatisfactory bowel habits, sleep-disturbed sleep.

**Envagai thervugal** (Eight-fold Siddha diagnostic clinical assessments):

The assessment is given in Table 2.

**Table 2: Envagai thervugal**

Eight-Fold Examination	Findings
Naadi	Azhal Vali
Sparisam	Warmth
Naa	Coated tongue
Niram	Normal
Mozhi	Normal
Vizhi	Normal
Malam	Constipated
Neer	Painful micturition

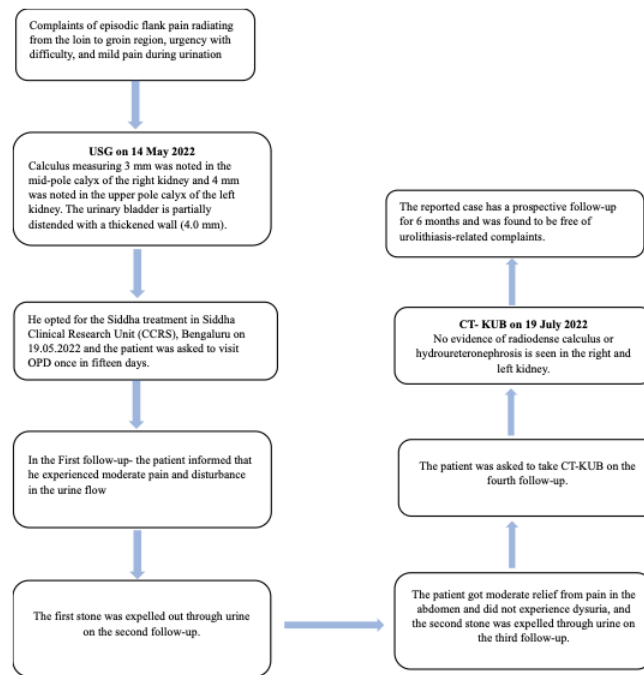
**Diagnostic Assessment**

The patient was diagnosed based on clinical symptoms as well as an ultrasonogram. (Figure 1).

**Therapeutic intervention**

The Siddha medicines were supplied to the patient from the Siddha Clinical Research Unit (CCRS), Bengaluru. The Siddha treatment plan is given in Table 3.

**Timeline**



**Table 3: Siddha treatment plan (10), (11)**

Date	Siddha Medicine	Dosage and adjuvant	Time of administration
Day 1 (19.05.2022)	Agasthiyar kuzhambu (Therapeutic Purgation)	130 mg with Sangan Kuppi leaf juice (Clerodendrum inerme)	Early morning on an empty stomach.
Day 2 (20.05.2022)	Seeraga thylam (Oleation Therapy/ Oil Bath)	50 ml	Massaging the head and body with medicated oil.
Day 3 to Day 60 (21.05.2022-18.07.2022)	Elathy chooranam	1 gram with warm water	Twice a day, after food
	Nandukkal parpam	100mg with warm water	
	Kalnar parpam	100mg with warm water	
	Nerunjil kudineer + Sirupeelai kudineer	60 ml	Once a day, before food

The medicines are dispensed from the pharmacy department of Siddha Clinical Research unit which are procured from the GMP certified Indian Medical Practitioners Co-Op Pharmacy & Stores (IMPCOPS).

**Table 4: Showing the ingredients of the medicines**

Medicine name	Ingredients
Elathy chooranam	Syzygium aromaticum L.
	Piper nigrum L.
	Mesua ferrea L.
	Abies webbiana Lindl.
	Maranta arundinacea L.
	Zingiber officinale Rosc.
	Elettaria cardamomum var.

Nandukkal parpam	Fossil crab stone
	<i>Raphanus sativus</i> L.
	<i>Aerva lanata</i> L.
Kalnar parpam	Chrysotile
	<i>Aristolochia bracteata</i> Retz.
Nerunjil kudineer	<i>Tribulus terrestris</i> L.
	<i>Hygrophila auriculata</i> Schumach.
	<i>Emblica officinalis</i> L.
	<i>Smilax china</i> L.
	<i>Solanum nigrum</i> L.
	<i>Cassia fistula</i> L.
	<i>Foeniculum vulgare</i> Mill.
	<i>Cucumis sativus</i> L.
	<i>Lagenaria siceraria</i> (Molina) Standl.
	<i>Terminalia chebula</i> Retz.
Sirupeelai kudineer	<i>Terminalia bellirica</i> (Gaertn.) Roxb.
	<i>Aerva lanata</i> L.
	<i>Crateva religiosa</i> G.Forst.
	<i>Tribulus terrestris</i> L.
	<i>Cucumis sativus</i> L.
	<i>Pavonia odorata</i> Willd.

was expelled through urine on the third follow-up. The patient was asked to take CT-KUB on the fourth follow-up. The patient resolved all his symptoms after 60 days with the Siddha treatment and his computerized tomography findings show no evidence of calculus or hydroureteronephrosis in the right and left kidney and the bladder is normally distended. During the next six months of follow-up, the patient showed no signs of renal calculi.

**Assessment parameter**  
**Objective parameters**

USG was done before, and CT was done after the intervention for the assessment of change in the size of urinary calculi mentioned in Table 4. Since the patient had taken USG-whole abdomen before the first visit to the hospital in a short interval, we started the intervention without delay. When the patient was relieved from the symptoms, we recommended CT since computed tomography is the gold standard imaging technique for diagnosing kidney stones. Due to older age and sedentary lifestyle, the patient had grade 1 fatty liver from the USG findings before the treatment procedure. CT scan imaging after the treatment, which provided a more accurate estimate of liver volume and size than USG, showed a 16 cm size in the liver, indicating mild hepatomegaly. It may be due to earlier fat deposition and not related to the treatment procedure. Intraperitoneal calcified lymph nodes were noted at 12 mm and 8 mm, respectively, and the patient's liver function was accessed and was still within normal limits; no ADR was noted in the whole duration. Moreover, the prescribed medicines have also not provided any ADRs in the past.

**Follow-up and Study outcome**

The patient was asked to visit OPD once in fifteen days and the prognosis and symptoms are recorded at every visit. No complications or adverse drug reactions have been reported in this study. After taking Siddha medicines, in the first follow-up, the patient informed that he experienced moderate pain and disturbance in the urine flow, and the first stone was expelled out through urine on the second follow-up. The patient got moderate relief from pain in the abdomen and did not experience dysuria, and the second stone

**Figure 1: Before Treatment**

**Figure 2: After Treatment**

**Table 4: Lab Findings**

S. No.	Date	Clinical Findings	Lab Findings
1	14 May 2022	Generalized weakness Burning micturition Dysuria	<ul style="list-style-type: none"> <li>Calculus measuring 3 mm was noted in the mid-pole calyx of the right kidney.</li> <li>Calculus measuring 4 mm was noted in the upper pole calyx of the left kidney.</li> <li>The urinary bladder is partially distended with a thickened wall (4.0 mm)</li> </ul>
2	19 July 2022	No complaints	<ul style="list-style-type: none"> <li>No evidence of radio dense calculus or hydroureteronephrosis is seen in the right and left kidney.</li> <li>The bladder is normally distended. No evidence of calculus or diverticulum. No abnormal wall thickening.</li> </ul>

**Subjective parameter**

The assessment was done before and after the intervention based on the grading of symptoms as follows.

Table 5: Subjective Symptom Assessments		
Complaints	0 day [Pre-Treatment]	60 <sup>th</sup> day [post-treatment]
Pain	Severe	Nil
Renal angle tenderness	Moderate	Nil
Burning micturition	Mild	Nil
Dysuria	Moderate	Nil
Haematuria	Nil	Nil
Nausea and vomiting	Nil	Nil
Feverish	Nil	Nil

According to Wairagade et al., the subjective symptom assessment was scored before and after treatment (12). The clinical assessment of pain, burning micturition and dysuria was done by Visual analog scale and dysuria discomfort scale.

**Discussion**

According to the diagnostic principles of the Siddha and WHO International Standard Terminologies on Siddha Medicine published by WHO, urolithiasis is termed *Kallataippu* (NSMC-XA Term ID-ISMT-4.16.44), and it is caused by the derangements of *Vali* and *Azhal* humours (5). Vitiation or aggravation of *Vali* and *Azhal* humours typically reflects in clinical symptoms like nausea, loin to groin pain, burning micturition, and dysuria (7). Thus, the medical intervention in the Siddha system is based on the restoration of the three humours of the body (13). As per the guidelines of the Siddha text, *Vali* can be neutralized by the administration of purgative medicines (14). Hence *Agathiyar kuzhambu* with *sangankuppi* juice (*Cleodendrum inerme*) is chosen as the first line of treatment (11), which may act as a stimulant and

osmotic purgative at the same time (15). *Nandukkal parpam* and *kalnar parpam*, along with *elathy chooranam*, are given as the drugs of choice.

All these combinations of medicines have traditionally been used by Siddha practitioners for years for the management of urolithiasis. *Nandukal* (Fossil crab stone), *kalnaar* (Chrysotile), and *nerunjil* (*Tribulus terrestris* L.) have diuretic modes of action, and *sirupeelai* (*Aerva lanata* L.) have lithotriptic properties. In the Siddha literature, *nandukkal parpam* is indicated for *Nhiirataippu*-(NSMC-XB), *Kallataippu*-(NSMC-XA), and *Nhiirkattu* -(NSMC- TJA1.10)(11) and it is also scientifically reduced the ethylene glycol-induced calcium oxalate crystals in the kidneys of Wistar rats (16) and also showed anti-microbial properties against *Proteus vulgaris*, *E.coli*, and *Pseudomonas aeruginosa* (17). *Kalnar parpam* is commonly used in the treatment of *Nhiirataippu*-(NSMC-XB), *Neerkuri erichal* (18), which works well for both dysuria and burning micturition. *Elathy chooranam* is a polyherbal formulation that has immunomodulatory and anti-inflammatory properties (19). *Nerunjil kudineer* possesses effective nephroprotective activity against cisplatin-induced nephrotoxicity in Wistar albino rats (20). *Sirupeelai kudineer* protects against the renal damage induced by aminoglycosides (AG) like Gentamicin in the Wistar albino rat model, which is proven scientifically (21). Based on the above-proven data, the prescription has also been derived.

According to this case report, after Siddha medicine intervention, a marked reduction was noted in the symptoms of episodic flank pain radiating from the loin to the groin region, urgency with difficulty, and mild pain during urination. After 60 days of treatment, the CT KUB report revealed no evidence of radio dense calculus or hydroureteronephrosis in the right and left kidneys. The bladder is normally distended, and there is no evidence of calculus or diverticulum. There was no abnormal wall thickening. No recurrence of any urolithiasis clinical features was observed during the six months of follow-up on the case. This combination is safe to use since no adverse reactions were observed during the investigation. Finally, in this case, the patient was treated effectively and safely without any invasive intervention.

**Conclusion**

By this case report, the conclusion drawn is that the combination of Siddha medicine having synergistic action and markedly reduced dysuria, and burning micturition and aided in the expulsion of calculus in the geriatric patient. No adverse reaction was noted during the study hence this combination is safe to use.

**Patient Perspective**

On May 8, 2022, I experienced pain during urination, radiating from the loin to the groin region. I consulted an allopathic physician and got symptomatic relief. Since I had recurrent stone formation, I had an ultrasound of the whole abdomen on May 14, 2022, in

which renal calculus was noted, and I opted for Siddha management at SCRUC, Bengaluru, on May 19, 2022. I took treatment for two months, got relief from the complaints, and now I am free of renal stones. I visited for the next six months for other ailments, and no further urolithiasis symptoms recurred.

### Informed Consent

A written informed consent for publication of this case report was obtained from the patient.

### Financial support and sponsorship

Since this case study was the documentation of a patient who visited the OPD of SCRUC, Bengaluru, and procured free medicines, there is no financial support or sponsorship involved in this study.

### Conflicts of interest

The authors declare that they have no conflict of interest.

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