# ***Case Study***

# *Hydrangea arborescence* and *Berbaris vulgaris*: Ease Ureteric Calculi Emission

**Abstract:**

Renal calculi or nephrolithiasis refers stone in the kidney-ureter-bladder (KUB) region. Calcium oxalate is the chief ingredient to form most of the calculi and kidney stone is one of the most common health problem in Bangladesh as well as in the world. Multiple risk factors play important role in formation of stone including fatty foods, increased intake of NSAID, sedentary life and few chronic clinical conditions. Recurrent infection in the urinary tract and dull aching pain in the flank is most common symptom along with difficulties in urine output, and may lead to sudden obstruction of urine flow if not treated properly. Conventionally surgery is the mostly prescribed solution however, there are few tangle of this including fear to surgery, expenses and recurrence. Therefore, finding an alternative, more beneficial and less expensive for patients is essential. The current case study involves a single case of ureteric calculi complicated with enlarged prostate, increased creatinine and previously diagnosed diabetes mellitus, where *Hydrangea arborescence* and *Berbaris vulgaris* used with positive outcome. Detailed mechanism of these two could be determined with extensive study along with new verge of research get opened.

*Keyword: Renal calculi, ureteric calculi, hydrangea, berbaris*.

## 1. INTRODUCTION:

The term nephrolithiasis represents calculi or stone in KUB and ureteric calculi defines calculi in ureter, the tube carries urine from kidney to the urinary bladder (1, 2). Abnormal concretion of various mineral salts including calcium oxalate, calcium phosphate, uric acid and struvite, where about 80% of kidney stone formed chiefly by calcium oxalate and grossly all originate attached to the interstitial plaque over renal papilla (3, 4). In major health problem index it is in 3$^{rd}$ position due to its high prevalence and recurrence (5, 6) though prevalence in Bangladesh is not known, yet it's a very common health complaint (7). Multiple risk factors are involved in renal stone diseases including excessive use of NSAID, increased intake of fatty foods, Chrone's disease, adenine phosphoribosyltransferase deficiency, cystinuria, Dent disease, familial hypo-magnesemia with hyper-calciuria, reduced physical activity and nephron-calcinosis (8, 9). Although kidney stone disease may remain asymptomatic for years, features of recurrent infection in urinary tract along with frequent pain in lower abdomen and flank, nausea-vomiting and obstruction in renal flow are common ( 10, 11). Untreated patients may suffer sudden obstruction in renal output, however surgery is widely prescribed treatment which is less eventful yet fever, hematuria, ileus and urine leak is common complication (7, 12). Homeopathic medicine could be well accepted alternative treatment for renal calculi patients. Homeopathic medicine is based on symptom similarity, mostly depending on patient's mental and physical makeup, not-only depending on clinical symptoms. Usually it takes 12 weeks to 24 or more weeks to get positive outcome in stone disease, depending on size-shape and position of stone. Sometimes patients become bored to take medicine due to this long period to respond and sometimes patient give up before the treatment has completed. So, it will be beneficial to the patients get a positive result by consuming both less time and expenses. In this current study we applied a combination of two different medicine, *Hydrangea arborescens* and *Berbaris vulgaris*, in a single ureteric calculi patient. The patient observed complete recovery of the condition with 4 weeks of consecutive treatment.

## 2. PRESENTATION OF CASE:

Male, 52 years old, having known history of diabetes mellitus (DM) and hypertension (HTN) presented with low back pain, more on the left side which was radiating towards the groin, suffering from these for last 3-4 days. Patient was advised for some laboratory tests and with ultrasonogram diagnosed as a case of left ureteric calculi in the distal part measuring about 66 mm, along with mild left hydro-ureteronephrosis (Fig.1A), along with enlarged prostate with post voidal residue (PVR) calculated 20.64 ml (Fig.3), fatty liver change in grade-I. From biochemical analysis of blood revealed that his prostate specific antigen (PSA) was 0.74 ng/dl which suggest enlarged prostate is benign in nature; serum creatinine was 2.22 mg/dl (Fig. 4) and fasting blood glucose (FBS) was 10.4 mmol/L (Fig. 5). Due to fear to go to under surgery, the patient was inclined to take homeopathic medicine as a popular alternative choice in this locality.

## 3. MEDICINES AND DOSE:

After being diagnosed the patient was advised to take *Hydrangea arborescence*, orally in tincture form, 60 ml distributed in 30 equal doses (2ml each time, twice a day, before meal) and *Berbaris vulgaris*, orally in 3X potency, 0.5 ml mixed with 60 ml distilled water, distributed in 30 equal doses (2ml each time, twice a day, after meal) for 15 days. Evaluating the latest sonographic image found (Fig.1B) and comparing biochemical report with previous reports (Fig.3, Fig.4, Fig.5) same medicines were prescribed for next 15 days in given order. Close image monitoring done with computed tomography (Fig.1C), and final sonographic image taken at the end of four weeks of treatment (Fig.1D).
During this 4 weeks of continuous period of treatment, use of other homeopathic or conventional medicine, topical or internal, were prohibited.
Patient was asked to take less quantity of water as he was taking earlier and advised to drink 2 Lt/24 hours along with maintain personal hygiene and diabetic food chart strictly.

## 4. RESULTS

We observed that a large stone flowed out through urethra within 4 weeks (Fig: 2); PVR, elevated serum creatinine and FBS level started to reduce (Fig.3, Fig.4 and Fig.5). A small ureterocele observed in the left bladder causing no significant complaints (Fig.1D). No change found in the prostate status and remaining hydronephrosis condition needed no further treatment as it may resolve with the given advices.


**Figure 1: Follow-up images of calculi, marked in yellow ring. A) Before starting treatment, B) Two weeks later, C) Three weeks later, D) Four weeks later.**

Figure 2: Flowed out calculi.

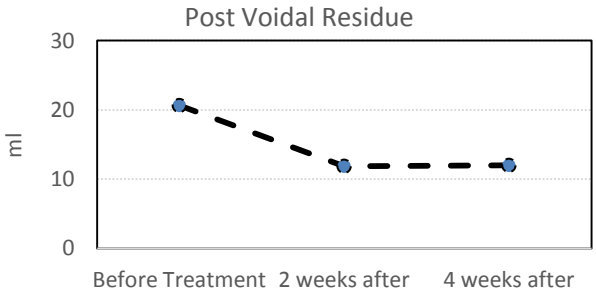


Figure 3: Post voidal residue (PVR) during the course of treatment.

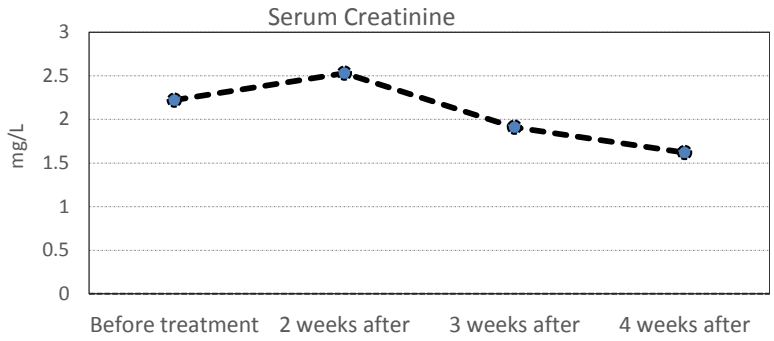


Figure 4: Serum creatinine level during treatment period

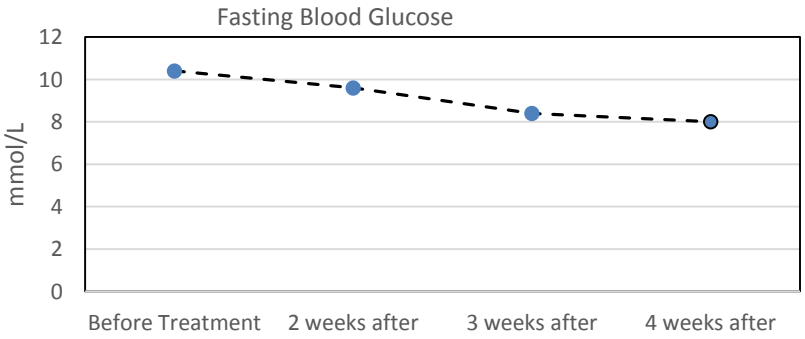


Figure 5: Fasting blood glucose level during treatment period

## 5. DISCUSSION

Among various available treatment options homeopathy is one with non-invasive, cost effective and without any known side effects. A number of homeopathic drugs including Benzoicum acidum, *Lycopodium clavatum*, Calcarea carbonicum, *Berbaris vulgaris*, *Sarsaparilla officinalis* etc. are prescribed in treating nephrolithiasis (13). According to homeopathic principles the application of more than one drug is prohibited (14). Now a day, in some particular clinical condition the application of two medicines at a time is practiced to reduce the duration of time to cure (15). In our study we treated with *Hydrangea arborescens* for it's various properties including cracking stone in small pieces or leaching stone to softer and smaller, increases urinary out flow and reduces prostate size (16-18). Along with this, *Berbaris vulgaris* was given for its known antibacterial activity, delays or prevent stone formation and has affinity to help urinary tract health including stone expulsion (16, 19, 20). After two weeks, the stone found in the left uretic-vesicular-junction, measuring 15 mm, which may miss interpreted that an increase of stone size, though it is the same stone in soft, flattened and elongated shape which justify the use of *Hydrangea arborescence* (Fig.1B). We noticed that flowed out stone is almost 18 mm in length and 8-9 mm in width (Fig.2); and the recovery time took significantly shorter than we usually find in using single drug. Noticeably gradual reduction of PVR (Fig.3) and FBS (Fig.5) found; though after two weeks of treatment serum creatinine raised a little, gradually reduced after three and four weeks respectively (Fig.4). Recommended dilution in homeopathy is not fixed, could be given frequently according to individuals severity of illness, using various potencies including both higher and lower potency is common (21). In our study we used the given potencies throughout the study with significant outcome.

## 6. CONCLUSION:

Findings of this case study may help to practice a new treatment option to reduce the curing time and expenses in treatment of ureteric calculi and it's related complicacy. Further study is needed to determine the possible correction of using both of these drugs and justification of this application.

## CONCENT:

Author declare that written informed consent was obtained from the patient for publication of this article and accompanying images. He was not against in taking homeopathic treatment as it is already famous in Bangladesh.

## ETHICAL CLEARANCE

Not applicable in this case.

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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