

**“TREATING RENAL STONES IN A CASE OF MULTIPLE
BILATERAL RENAL STONES BY MINERALO-HERBAL
FORMULATION”****Dr. Sumit Srivastava*¹, Dr. Ujjaliya Nitin², Dr. Vipin Saraswat³**¹Associate Professor; Dept. of Rog-nidan, Shri Dhanwantry Ayurvedic College. Chandigarh²Lecturer, Dept of Dravyaguna, Govt. Ayurvedic College, Patiala, Punjab, India³Lecturer, Dept of Dravyaguna, Shri Dhanwantry Ayurvedic College. Chandigarh, India

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of Rog-nidan, Shri
Dhanwantry Ayurvedic
College, Sector 46-B,
Chandigarh. , India-160047**ABSTRACT**

A kidney stone is a solid piece of material which is formed in the kidneys from minerals in urine. When the urine becomes supersaturated with one or more calculogenic substances, a seed crystal may form through the process of nucleation. If stones grow to sufficient size (usually at least 3 millimeters (0.12 in)) they can cause blockage of the ureter. This leads to pain, most commonly beginning in the flank or lower back and often radiating to the groin. In Ayurveda, it

is known as *Vrukka Ashmari*. Ayurvedic treatment of Kidney Stones involves the use of diuretic and stone-dissolving herbs in acute cases. Oral administration of mineralo-herbal formulation was found to prevent the urinary super saturation of lithogenic substances. The findings showed beneficial effects of this formulation as revealed by the improvement of various clinical symptoms, increased stone expulsion rate and the time required for expulsion as well as urine microscopy (Oxalates and pus cells), which correlated well with the findings. The beneficial actions of this formulation could be due to the complex spectrum of actions including anti-inflammatory, antimicrobial, diuretic, antispasmodic, litholytic, and anticalcifying activities of its ingredients.

KEYWORDS: kidney stone, *Vrukka Ashmari*, mineralo-herbal formulation, litholytic, anticalcifying.

INTRODUCTION

A kidney stone, also known as a renal calculus or nephrolith, is a solid piece of material which is formed in the kidneys from minerals in urine. One in every 20 people develops kidney stones at some point in their life. Calcium is one component of the most common type of human kidney stones, calcium oxalate. Some studies suggest people who take calcium as a dietary supplement have a higher risk of developing kidney stones.

Kidney stones form when there is a decrease in urine volume and/or an excess of stone-forming substances in the urine. Drinking fluoridated tap water may increase the risk of kidney stone formation by a similar mechanism. When the urine becomes supersaturated (when the urine solvent contains more solutes than it can hold in solution) with one or more calculogenic (crystal-forming) substances, a seed crystal may form through the process of nucleation. Heterogeneous nucleation (where there is a solid surface present on which a crystal can grow) proceeds more rapidly than homogeneous nucleation (where a crystal must grow in liquid medium with no such surface), because it requires less energy. Adhering to cells on the surface of a renal papilla, a seed crystal can grow and aggregate into an organized mass. Depending on the chemical composition of the crystal, the stone-forming process may proceed more rapidly when the urine pH is unusually high or low. Kidney stones typically leave the body in the urine stream, and a small stone may pass without causing symptoms. If stones grow to sufficient size (usually at least 3 millimeters (0.12 in)) they can cause blockage of the ureter. This leads to pain, most commonly beginning in the flank or lower back and often radiating to the groin. This pain is often known as renal colic and typically comes in waves lasting 20 to 60 minutes. Other associated symptoms include: nausea, vomiting, fever, blood in the urine, pus in the urine, and painful urination. Blockage of the ureter can cause decreased kidney function and dilation of the kidney. Most stones form due to a combination of genetics and environmental factors. Risk factors include being overweight, certain foods, some medications, and not drinking enough fluids.

Stone size influences the rate of spontaneous stone passage. For example, up to 98% of small stones (less than 5 mm (0.20 in) in diameter) may pass spontaneously through urination within four weeks of the onset of symptoms, but for larger stones (5 to 10 mm (0.20 to 0.39 in) in diameter), the rate of spontaneous passage decreases to less than 53%. Initial stone location also influences the likelihood of spontaneous stone passage. Rates increase from 48% for stones located in the proximal ureter to 79% for stones located at the vesicoureteric

junction, regardless of stone size. Assuming no high-grade obstruction or associated infection is found in the urinary tract, and symptoms are relatively mild, various nonsurgical measures can be used to encourage the passage of a stone.

In Ayurveda, it is known as *Vrukka Ashmari* (*vrukka* means kidney and *ashmari* means stone). According to Ayurveda, improper diet and lifestyle leads to aggravation of all three *doshas* (Ayurvedic humors) and impairment of the digestive fire, causing formation of toxins (*ama*) in the body. These toxins travel down the channels carrying urine, where aggravated *doshas* combine with it, causing its crystallization and leading to the formation of kidney stones.

Ayurvedic treatment of Kidney Stones involves the use of diuretic and stone-dissolving herbs in acute cases. The system is then cleaned and strengthened using toning and rejuvenating preparations. *Panchakarma* therapy is a very effective means of cleansing the body internally in order to help it regain strength.

CASE REPORT

A 42 year old male who had continuous backache and burning micturition since 20 days was advised to undergo USG abdomen. It was observed that the patient had multiple non obstructive calculi of different size of largest around 6 mm in lower calyx of left kidney. Right kidney also showed at least 3 to 4 non obstructive calculi ranging from 3mm to 5 mm in all calyces. Grade I hydronephrosis was observed on either side or urinary bladder was well distended and appeared normal. No intraluminal stone or mass lesion was seen. No history of Diabetes or any other major illness was present.

Treatment Advised

A.

1.Hajrul Yahoood Bhasma	5g
2.Mooli Kshar	5g
3.Sarjika kshar	2g
4.Trinpanchmool churna	60g

5g mixed powder twice daily with *varunadi kwath*.

B. Patient was also advised to drink plenty of water and avoid curd, butter, Chocolate, Carrots, Beans, tomato, spinach, and sour taste materials i.e. vitamin C rich foods.

Patient was followed up with monthly USG abdomen and routine urine microscopy.

RESULTS

	1 st visit	After 1 month	After 2 months
Symptoms	Burning micturition with backache	No Pain, No Burning micturition	No Pain, No Burning micturition
USG Abdomen	Multiple non obstructive calculi of different size of largest around 6 mm in lower calyx of left kidney. Right kidney also showed at least 3 to 4 non obstructive calculi ranging from 3mm to 5 mm in all calyces	Multiple non obstructive calculi of different size of largest around 3 mm in lower calyx of left kidney. No calculi are seen in right kidney.	Essentially normal study.
Urine Microscopy	Plenty of Oxalates crystals with pus cells	Few oxalates crystal and few pus cells	No oxalates, 2-3 pus cells

DISCUSSION

Urolithiasis is a complex process that results from a succession of several physicochemical events including supersaturation, nucleation, growth, aggregation and retention within the kidneys.^[1] The treatment for the kidney stone is depends on the size and type of the stone that is formed in the kidney. If the size of stone is small up to 5.5mm, then it can be dilute by medications.

Treatment of urolithiasis involves either conventional therapy or interventional procedures. The primary agents in medical management for urolithiasis, has been investigated with calcium channel blockers, steroids, nonsteroidal anti-inflammatory drugs (NSAIDs), and 1-adrenergic receptor antagonists.^[2] However, these treatment regimens are not free from side effects. Due to the high cost and adverse effects of minimally invasive techniques, and recurrence alternative treatment modalities with phytotherapeutic agents have become the mainstay of medical therapy.

Ayurvedic formulation containing principal herbs useful in the treatment of urinary calculi and found safe also.^[3] Oral administration of above formulation was found to prevent the urinary supersaturation of lithogenic substances. The findings showed beneficial effects of this formulation as revealed by the improvement of various clinical symptoms, increased stone expulsion rate and the time required for expulsion as well as urine microscopy (Oxalets and pus cells), which correlated well with the findings. The beneficial actions of this formulation could be due to the complex spectrum of actions including antiinflammatory,

antimicrobial, diuretic, antispasmodic, litholytic, and anticalcifying activities of its ingredients.

Hajrul yahud naturally helps in breaking the kidney stones into smaller fragments which are easily removed from the urinary tract with passage of urine.^[4] *Hajrul yahud* is a comprehensive natural remedy for any kind of urinary obstruction or any other urinary disease. It provides nourishment to kidney cells and supports their normal functioning.

Kshar(Mooli) is sheetveerya, which acts as an alkalizer. Further as it is a *kshar* possess alkalizar properties; synergetic action of alkalizer is enhanced and appreciating the results in disintegration and elimination of urinary stones from urinary tract.

***Trinpanchmool Churna* contains 10 g coarse powder of each of**

Kusha – Desmostachya bipinnata

Kasha – Saccharum spontaneum

Shara – Saccharum munja

Darbha – Imperata cylindrical

Ikshu – Sugarcanne – Saccharum officinarum

Effects of Trinpanchmool Churna have been described in ayurvedic texts as^[5]

कुशः काशः शरो दर्भ इक्षुश्चेति तृणोद्भवम् ।

पित्तक्च्छहरं पञ्चमूलं वस्ति विशोधनम् ॥

B. lingulata, (main ingredient of *Varunadi Kwath*) is reported to have active principles such as *bergenin* and *afzelechin* that possess astringent properties, making it an effective antimicrobial agent.^[6] *Bergenin* is a known diuretic and is established to be effective in glycolic acid-induced urolithiasis as well as in the inhibition of growth of urinary crystals by acting on the crystalloid-colloid balance.^[7]

CONCLUSION

The results of the mineralo-herbal formulation is safe and effective in the treatment of urolithiasis, with significant improvement in symptoms associated with renal stones. This Ayurvedic formulation has also shown to facilitate stone expulsion rate. It has significantly reduced concomitant symptomatic treatment with pain killers. Hence, this Ayurvedic

formulation appears to be an effective and safe phytotherapeutic agent and could be useful in the alternative management of urolithiasis.

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