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Antiurolithic activity of *Soma* (*Ceropegia bulbosa Roxb*)-A Case Report

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Abstract:

Ceropegia bulbosa Roxb(Asclepiadaceae) is a slender fleshy twining herb found in India. Traditionally leaves of *Ceropegia bulbosa Roxb*is used by local peoples of many states of India for treatment of kidney stones. Still no scientific report is available which proves its antiurolithic property. Thus present study was designed to investigate antiurolithic activity of *Swarasa* extract of whole plant of *Ceropegia bulbosa Roxb*in a patients of urolithiasis.In present study, *Swarasa* (extract of whole plant) of *Ceropegia bulbosa Roxb* was given in a patient of urolithiasis. A 45 years old female patient was having complaints of left loin pain and recurrent urinary tract infection. After the episode of acute abdominal colic, she was detected with renal calculus. Investigations like level of serum uric acid, blood urea nitrogen, creatinine and urine routine and microscopic were done. Ultrasound examination done before and after the treatment shows significant reduction in size of the calculus so passed out from kidney.50 ml of *Swarasa* daily for 10 days significantly reduced her kidney stone size and it was passed out from urine.

Key Words: *Ceropegia bulbosa*, *Mutrashmari*, *Soma*, Urolithiasis.

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Introduction:

Urolithiasis is the development of stones in the urinary tract. This may lead to pain and bleeding. It is considered as the most common cause of the urinary tract. In most of the types of stones that are formed, the most frequent are calcium oxalate. As per clinical and epidemiological studies, calcium oxalate followed by calcium phosphate is the most commonly encountered crystalline components found in urolithiasis. The recurrences of calculus, recurrent urinary tract infection, pain, burning micturation are common findings.

There are many plants whose name is *Pataltumbi or Khaparkadu or Soma*, according to the description in the texts it is considered as Ceropegia bulbosa Roxb.The plant is traditionally used in the treatment of renal calculus by peoples in the villages. Here the whole plant is collected and identified by the botanist and species labeled as *Ceropegia bulbosa* Roxb *(Asclepiadaceae)*. An extract of whole plant (*swarasa)* derived and 50 ml *swarasa* with water daily given to the patient for 10 days. Ultrasound sonography was done before and after the treatment.

Case History:

A 45 year old woman patient, consulted to *Kaya chikitsa* outpatient department of Vasantdada Patil Ayurvedic Medical College and Institute of Yoga, Sangli; (O.P.D. No 5879/2018). She was presented with burning micturation, acute pain in left loin, vomiting, nausea, and fever with chills day before the admission. For this acute condition, she was treated symptomatically with Injection aqueous Diclofenac 1 cc. deep intramuscular and intravenous. Ringer's lactate solution, 5% Dextrose, for acute renal colic on day care basis. She was advised for biochemistry investigation [Table 2] urine routine and microscopic examination [Table 3]. After the acute management, patient was advised with the *Ceropegia bulbosa* Roxb *Swarasa* daily for 10 days.

Methodology/ Treatment given:

Plant material: *Ceropegia bulbosa* Roxb Plant including tuber were collected locally from region near Bhimashankar, Maharashtra, India. Plant herbarium was also prepared and submitted and authenticated by Dr. Milind Wadmare, Botanist, Department of Botany, Smt Kasurbai Walchand Science College, Sangli (M.S.)

The whole plant including tuber were collected under standard condition well crushed using grinder and some water is added in the extract, 50 ml of *swarasa* prepared. Patient was given this fresh *swarasa* daily in morning for ten days with plenty of water. To follow the restricted diet, diet chart in local language i.e. *Marathi* was given to the patient [Table 4]. Follow up of the patient done after 1 month.

Table-1: Ultrasound Report

	Before treatment	**After treatment**:
Kidneys	Both Kidneys are normal in size shape, position and axis. Normal thickness, Smooth parenchyma. No hydronephrosis. Bilateral small size renal calculi upto 5 mm.	Normal in sizes and appearances. No calculus or hydronephrosis/hydroureter.
Bladder	Normal.	Normal.
Comments	Ultrasound revealed Bilateral small size renal calculi up to 5 mm. Rest of ultrasound was normal.	No significant Abnormality Noted.

Table-2: Biochemical investigations

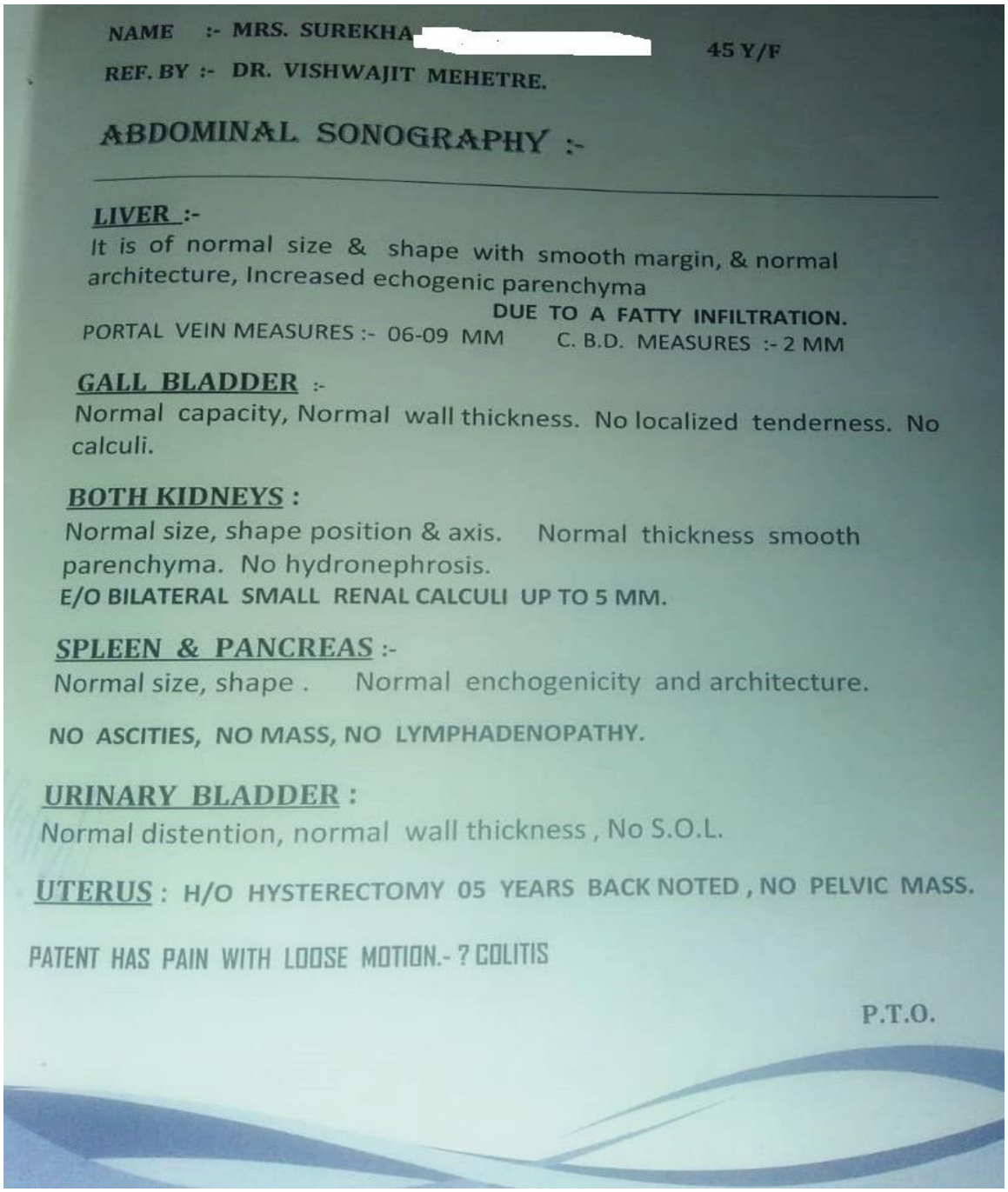
Investigation	**Observed findings**	**Reference range**
Serum creatinine	0.4 mg/dl.	0.5-1.5 mg/dl
Blood Urea	17 mg/dl.	7-20 mg/dl
Blood Urea Nitrogen	7 mg/dl.	7-20 mg/dl
Serum Uric Acid	0.4 mg/dl	3.4-7 mg/dl

Table-3: Urine Microscopic Examination

Parameters	**Before treatment**	**After treatment**:
Epithelial cells	5-6/HPF.	2-3/HPF.
Red Blood cells	4-6/HPF.	0-1/HPF.
Oxalate crystals	8-10/HPF	1-2/HPF
Phosphate crystals	0 /HPF.	0 /HPF.
Pus cells	1-3/HPF.	Nil.

Table-4: Advised Diet Chart:

कॅल्शियम ऑक्झलेट चे खडे असल्यास कमी खा किंवा टाळा	**Diet Chart:**
कोबी	
फुलकोबी	**For renal calculus made of calcium oxalate-avoid diet or eat less**
टोमॅटो	Cabbage
पालक	Tomato
मशरूम	Flower
ब्रेड	Spinach
काळा चहा	Mushrooms
दुध	Bread
	Black tea decoction
युरीक ॲसिड चे खडे असल्यास कमी खा किंवा टाळा	Milk
मांसाहारी पदार्थ	
चवळी	
मासे	**For renal calculus made of Uric acid-avoid diet or eat less**
सफूही पदार्थ	Non vegetarian diet
मांसाहारी पदार्थ	Fish
अकोड	Beans
ड्राय	Sea food
चीज	Apricot
मीठ कमी करणे	Grapes
	Cheese
जास्त खा :	Eat less salt.
नारळ	
पाणी	**Eat food in more quantity**
अननस	Coconut
केळी	Water
गाजर	Pineapple
हरभरे	Banana
लिंबू	Carrot
संत्री	Lemon
मोसंबी	Orange
कारले	Sweet lime
हिरव्या पालेभाज्या (पालक सोडून)	Chickpeauant
भात	Bitterguard
डाळ	Green Vegetables (Excluding Spinach)
गहू .	Rice
	Wheat
	Lentils.



NAME :- MRS. SUREKHA [redacted] 45 Y/F

REF. BY :- DR. VISHWAJIT MEHETRE.

ABDOMINAL SONOGRAPHY :-

LIVER :-

It is of normal size & shape with smooth margin, & normal architecture, Increased echogenic parenchyma

DUE TO A FATTY INFILTRATION.

PORTAL VEIN MEASURES :- 06-09 MM C. B.D. MEASURES :- 2 MM

GALL BLADDER :-

Normal capacity, Normal wall thickness. No localized tenderness. No calculi.

BOTH KIDNEYS :

Normal size, shape position & axis. Normal thickness smooth parenchyma. No hydronephrosis.

E/O BILATERAL SMALL RENAL CALCULI UP TO 5 MM.

SPLEEN & PANCREAS :-

Normal size, shape . Normal enchogenicity and architecture.

NO ASCITIES, NO MASS, NO LYMPHADENOPATHY.

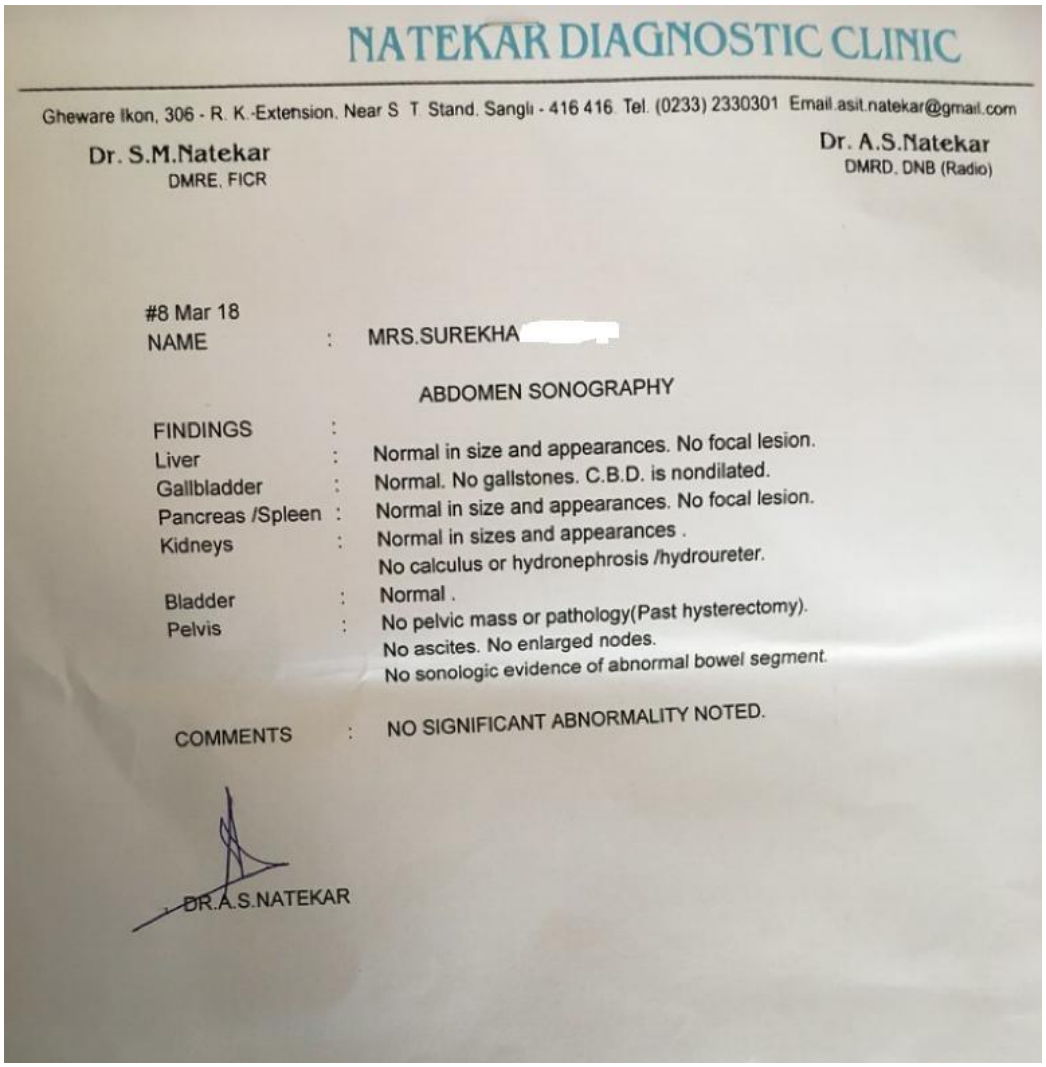
URINARY BLADDER :

Normal distention, normal wall thickness , No S.O.L.

UTERUS : H/O HYSTERECTOMY 05 YEARS BACK NOTED , NO PELVIC MASS.

PATENT HAS PAIN WITH LOOSE MOTION.- ? COLITIS

P.T.O.



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DMRE, FICR

Dr. A.S.Natekar
DMRD, DNB (Radio)

#8 Mar 18
NAME : MRS.SUREKHA

ABDOMEN SONOGRAPHY

FINDINGS :
Liver : Normal in size and appearances. No focal lesion.
Gallbladder : Normal. No gallstones. C.B.D. is nondilated.
Pancreas /Spleen : Normal in size and appearances. No focal lesion.
Kidneys : Normal in sizes and appearances .
No calculus or hydronephrosis /hydroureter.
Bladder : Normal .
Pelvis : No pelvic mass or pathology(Past hysterectomy).
No ascites. No enlarged nodes.
No sonologic evidence of abnormal bowel segment.

COMMENTS : NO SIGNIFICANT ABNORMALITY NOTED.

DR.A.S.NATEKAR

Result and Discussion:

According to *Charakacharya, Mutrashamari* is formed by *shushka guna* of *Vata* when vitiates *Kapha* or *Pitta* or *Shukra* in the *Basti Predesha*. [1] *Samprapti* is similar as *Gorochana* or cholelithiasis. Here in this case pain or *shoola* is predominant symptom so considering this as *Vataja Ashmari* [2]. When *Vata* gets *pratiloma Ashmari sharkara* gets blocked in *Mutravaha Strotasa* or urinary system at that time pain, weakness, loin pain, burning micturation, chest pain, vomiting like symptoms occur. [3,4] Considering *Soma* as plant of *Ceropegia bulbosa Roxb,* [5-15] *Soma* has katu tikta *rasa*, usna *virya*, katu *vipaka*, laghu, tiksna & snigdha *gunas*.It shows *vatahara* and *kaphahara* properties. *Katu*, *tikshna* and *snigdha* guna are useful in reduction of *kaphasamurcchana* of the *mutrashmari*. By reducing the *mutrashmari* size obstruction is relived and passage for urine becomes clear. It is showing *Vatahara* properties by reducing the pain and size of the calculus.

Ultrasound report before treatment bilateral small renal calculus in measuring about 5mm with no hydroureter and no hydronephrosis. After treatment, size of the calculus was 5 mm and on after 15 days follow up patient felt pain in the loin and calculus passed away with burning micturition and her ultrasound done showing kidney size normal, well renal corticomedular differentiation, no calculus in ureter, no hydroureter hydronephrosis, no signs of obstructive uropathy, rest of ultrasound was normal[Table 1]. *Ceropegia bulbosa* Roxb treatment reduced oxalate, calcium and phosphorus levels to normal thus, reducing the risk of stone formation. [11]

Conclusion:

This single case concluded that *swarasa* of *Ceropegia bulbosa* Roxb possess significant anti urolithic activity in patients with oxalate calculus along with more water intake. After treatment there was no complication or urinary symptoms. Size of the calculus was 5 mm small also. There was pain while calculus passing away. Availability of the plant is also an issue. This treatment is safe, easy to use and tolerable to the patient without any side effect. This treatment needs to be tried in more number of cases especially in recurrent urinary tract infection associated with small size renal calculus.

Acknowledgement:

Dr. Milind Wadmare, Botanist, Department of Botany, Smt Kasurbai Walchand Science College, Sangli (M.S.)

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