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EFFICACY OF *KADALIKANDA SWARASA* IN THE MANAGEMENT OF *MUTRASHMARI* (UROLITHIASIS) – A CLINICAL STUDY

Rajeshwari P.N.[1] Veena K.[2] Venkatesh B.A.[3]

[1]Dept of ShalyaTantra, National Institute of Ayurveda, Jaipur, Rajasthan, India

[2]AYUSH Medical Officer, Koppala, Karnataka, India

[3]Dept. of Shalya Tantra, Govt.Ayurveda Medical College, Mysore, Karnataka, India

ABSTRACT

Ashmari (Urolithiasis) is one of the major causes of abdominal pain. It is one of the major problems in surgical practice and the problem of recurrence is always troublesome to the surgeons. The therapies which are available in different systems of medicine cannot avoid the pathogenesis of calculus. So, recurrence of calculus even after removal is becoming a great problem and constant efforts are being made to evolve an effective treatment as well as prevention of recurrence of the disease. The objective of present study was evaluatation of the efficacy of *Kadalikanda swarasa* in the management of *Mutrashmari*. *Kadali kanda swarasa* is described in *Charaka samhitha* in *mootrakrichradhikara* which is indicated in *Kaphaja Moothrakrichra* with *kulatha yusha anupana*.

Keywords: *Mutrashmari*, Urolithiasis, *Kadali kanda swarasa*, *Kulatha yusha*

INTRODUCTION

Ashmari comprises of two words, i.e. *'Ashma'* and *'Ari.' 'Ashma'* means a stone and where *'Ari'* means enemy. *Ashmari* is a disease in which there is formation of stone, resulting into severe pain as given by enemy. Hence it might have been considered as one among the *'Ashtamahagada'*. *Ashmari* specifically called as *Moothrashmari* is a disease of *moothravahasrotas.* The earliest reference of *Ashmari* with detailed description is available only in Ayurvedic texts. *Sushruta* (800-1000 B.C.) has given elaborate description of *Ashmari* in his treatise and information is available in most of the *samhitas*. This infers its prevalence in the inception of medicine in India. 7-10 of every 1000 hospital admission is of Urolithiasis. This is one among the cause for pain abdomen and it is estimated that each individual will have a chance of 1% to suffer from urolithiasis in their lifetime. Highest incidence is in 30-45 years of age group and incidence declines after the age of 50. Hence, it is required to understand the disease and find a best solution that not only treats the condition but also prevents the disease at primary and secondary levels.

Moothrashmari is one among the eight *Mahagadas.* The reason is because, this disease is *Tridoshaja*, it is *Marmashrayee* and *vyakthasthana* of *ashmari* is *basthi* which is one among *dashavidha pranayathana*. Also when it is a fatal, it needs surgical intervention. The severity of pain which is compared to the pain of child birth makes the life of the

patient miserable. The patient dies if the surgery is not done in time.

Acharya Sushruta while describing the *lakshanas* of *ashmari* has clearly mentioned the site of pain, character of pain, severity of pain, aggravating and reliving factors. This pain pattern mentioned in the classics mimics renal colic and acute ureteric colic and the patients complain of aggravation of pain on bending, lifting weight, doing heavy exercise, climbing staircase and on riding vehicle for a long distance and pain is relieved after passing urine are similar to that explained in classics.When an impacted stone moves downwards due to vigorous movements there will be bleeding, due to injury caused to the urothelium of ureter leading to Haematuria. Even Vagbhata mentioned the symptom as *rudira mootrata* due to *kshata.* Obstruction to the flow of urine is mentioned as *moothradhara sangha*. Based on these clinical features and the other factors, the disease can be co-related to urolithasis.

The word urolithiasis can be splitted as uro-lithiasis, which means a condition due to the stone in the urinary tract. The cause for the formation of stone is due to the factors like concentrated urine, deficiency of stone inhibitor substances like mucopolysaccharides, citrate etc. However the role of heredity, geographical condition, dietic factors have their key role to play.The patient of this disease will have the symptoms like pain abdomen, dysuria, etc. and is confirmed by the investigations – USG and X-ray (KUB) etc.

AIMS AND OBJECTIVES

The present clinical study was aimed to evaluate the clinical and therapeutic efficacy of *kadali kanda swarasa* with *Kulatha yusha* as *anupana* in the management of *moothrashmari.*

METHODOLOGY

Clinical subjects for present study:

The patients attending the O.P.D. and I.P.D of Shri Jayachamarajendra Institute of Indian Medicine Hospital, Bangalore, Who fulfilled the inclusion criteria, were randomly selected for the study. Data was collected in the clinical proforma exclusively prepared for clinical study. The patients presenting with clinical, radiological / ultrasonographical features favoring the diagnosis of *Murashmari*, irrespective of sex, religion, occupation, race and economical status were selected.

Inclusion Criteria

- Patients presented with the classical features of *mutrashmari* that includes *sarudhira mutrata, mahati vedana in nabhi pradesha, basthi pradesh, seevani pradesha, mehana pradesha* were selected.
- Size of the calculi up to 10 mm.
- *Mootrashmari* irrespective of the site with mild to moderate hydronephrosis.
- The patients between the age group of 16-60yrs will be selected.

Exclusion Criteria

- Patients associated with severe complications of systemic diseases.
- Patients associated with complications of the urinary system along with *ashmari* were excluded.
- Renal calculi in pregnant woman.

Investigations

a) Urine Analysis
   i. Physical: colour, Specific gravity
   ii. Chemical: pH, Albumin.
   iii. Microscopic: R.B.C., Cast and Crystals, Epithelial cells and pus cells

b) Radiological Examination: Plain X-ray K.U.B.

c) Ultrasonographical study: K.U.B.

Study design

Minimum samples of 20 patients were randomly selected for the study and this is clinical study with pre-test and post-study study design.20 patients were treated with *Kadali kaanda Swarasa* 20ml three times a day with *Kulatha yusha* as *anupana* given orally before food for 21 days. *Swarasa* was freshly prepared daily and given in hospital to avoid compliance.

Observational Period: The patients were advised to come daily for a period of 3weeks during the course of treatment. Periodical observations were done once in a week.

Follow up period: The follow up period was fixed for a period of 3 months after completion of treatment to rule out recurrence of any symptoms. However patients were advised to consult immediately if they notice any urinary symptoms.

Assessment criteria

Subjective

(a) Pain abdomen:

Grade 0 - Absence of pain abdomen (No pain)

Grade 1 - Present but does not disturb routine (Mild pain)

Grade 2 - Present which disturbs routine (Moderate Pain)

Grade 3 - Patient rolls on bed due to pain (Severe Pain)

(b) Dysuria:

Grade 0 - Absence of pain during micturition

Grade 1 - Mild pain during micturition

Grade 2 - Moderate pain during micturition

Grade 3 - Severe pain during micturition

(c) Haematuria:

Grade 0 - Absence of R.B.C.s in urine

Grade 1 - Microscopic Haemauria

Grade 2- Macroscopic Haemauria

Objective criteria:

Size of the stone

Site of the stone

Number of stone (All these criteria were assessed by Radiological / USG findings)

Result criteria:

Observation on change in Size of calculi:

No response -No change in size (0%)

Poor response - In between 1% to 24% of decrease in size

Mild response - In between 25% o 49% of decrease in size

Moderate response - In between 50% to 74% of decrease in size

Marked response - In between 75% o 99% of decrease in size

Exemplary response - Disappearance of stone from urinary tract (100%)

Observation on dislodgement of Calculus:

Grade 0 - Complete expulsion of calculus from its original site

Grade 1 - Partial Expulsion (Descent of the Calculus to any of the lower site from its original site)

Grade 2 - Same site

OBSERVATION

In the present series of observation it was found most of the patients were in the age group of 15-30 years. This might be due to the stressful work, irregular dietetics and habits, orientations towards different food, lack of proper regimens in daily routines etc. there by reducing the quantity of urine output in turn helping in the formation of stone. The incidence of *moothrashmari* was relatively more in males than in females in the present study and the ratios was almost 2:1. The prevalence of *ashmari* is relatively less in females. Most of the patients were

housewives and employees' belonged to upper middle class were having irregular dietary habits and practice of less intake of water. People of any community appear to be equally susceptible to this disease. Out of 40 patients, 30 patients were non-vegetarians and consuming more non vegetarian food is one among the cause for the formation of *ashmari* as it contains phosphorus and purine which may predispose to phosphate calculi. In this study clinical observation were found like Pain abdomen, Dysuria, Haematuria, etc. But pain abdomen was the common symptom which was present in all the patients.

RESULTS

Statistical evaluation of subjective parameters in 20subjects showed significant reduction in the abdominal pain by 72.97%, in Dysuria by 78.12%, reduction in Haematuria by 83.4% after 21 days of treatment.Statistical evaluation of objective parameters showed significant reduction in Size of the Stone by 52.51%, Response on Descent/Expulsion of Stones by 55%, after 21 days of treatment.

DISCUSSION

Kadali kanda swarasa shown Exemplary response in 45% & Mild improvement in 30 % of patients.Thus in the present study, the rate of reduction or elimination is very high when compared to the spontaneous passage of stone. Spontaneous passage is very likely when the stone is in the ureter and less than 4mm (90%). A stone more than 4mm and located in renal calyces is very unlikely to pass spontaneously. But in the clinical trial group 50% of the patients had above 4mm size and in 72% the site was calyces. The biggest stone eliminated is 7mm, which indicate the therapy as very effective and the results of study were highly significant.

Kadali Kanda swarasa has a significant role in the management of *moothrashmari* as a majority of patients showed a highly significant response through relief of symptoms, in reduction in size and elimination of stone.

Probable mode of action of *Kadali kanda swarasa*:

Due to *Sheeta Veerya* and *Madhura Vipaka, kadali* acts as a Mutrala there by it will increase the intra luminal pressure which helps in the expulsion of stone from the urinary system. By the virtue of its *mootra marga vishodhaka* property it prevents and clears the adhesions of *ashmari*. As it is having *Kashaya Rasa* and *Sheeta Veerya* it acts as *Daha prashamaka* and *Rakta sthambaka.*

The drug reduces the acidic reaction of urine and helps in alkalization. Acidic urine is the main cause for insolubility of solutes. The alkaline urine prevents precipitation and growth of crystals. It is rich in Vit-B which breaks down oxalic acid. Thus helps in breakdown of calculi and its further recurrence. *Anupana, kulatha yusha* acts as *Kaphagna* and *Vataghna*. Its *Ushna, Teekshna* and *Ashmarighna* property breaksdown the stone. Watery extract of *Kulatha* acts as good inhibitor of stone formation. It has stone inhibitor phosphorus and Vit-A which prevents the stone formation.

CASE DISCUSSION

Case 1:

Mrs. Ushashree, 27 years old female, a hindu patient, who is house wife and resident of Bommanahalli, Banglore, has attended Shalya tantra O.P.D, SJIIM Hospital, Banglore.with the complaint of

severe pain abdomen along with moderate dysuria associated with burning micturition and nausea since 3 days. There was history of similar complaints on and off since one and half year. Patient was not known case of Diabetes and Hypertension. She was non-vegetarian prefer Madhura, snigdha ahara with ragi as a prime food. Her prakruhi was analysed as kapha vataja and she belonged to jangala desha. Her pulse, blood pressure and other general conditions were within normal limits. On palpation, tenderness was elicited in left renal angle, hypochondric, lumber and supra pubic regions. Her U.S.G. report revealed 7 mm. calculus in lower pole of left kidney. Urine finding showed the pH value of 6 and microscopic examination showed 2-3 pus cells.

The patient was administered 'Kadali kaanda swarasa' along with kulatha yusha for 21 days. At the end of 1st week the pain abdomen ad dysuria were reduced to mild degree where as burning micturition and nausea were disappeared. At the end of 3rd week both pain abdomen, dysuria were disappeared and U.S.G. report revealed expulsion of calculus.

Case 2:

Mrs. Tulasi bai, 46 years old, a hindu female, who is house wife and resident of Banglore, has attended Shalya tantra O.P.D, SJIIM Hospital, Banglore, with the complaint of mild pain abdomen and mild dysuria along with burning micturition since 7 days. There was history of similar complaints on and off since 2 years. Patient was not known case of Diabetes and Hypertension. She was non-vegeterian, has practice of taking more milk and less water with ragi as a prime food. Her *prakruthi* was analysed as *vata-pittaja* and she belonged to *sadharana desha*. Her pulse, blood pressure and other general conditions were within normal limits. On palpation, tenderness was elicited in right renal angle, hypochondric, lumber, umbilicus and supra pubic regions. Her U.S.G. report revealed multiple (3.8, 4 and 4.8mm) small right renal calculi. Urine finding showed the pH value of 6 and rest within normal limits.

The patient was administered *'Kadali kanda swarasa'* along with *kulatha yusha* for 21 days. At the end of 1st week both pain abdomen and dysuria were disappeared. At the end of 3rd week U.S.G. report revealed expulsion of all the calculi.

CONCLUSION

On the basis of the results of this study it can be concluded that *Kadali kanda swarasa* provided better relief to the patients of *Ashmari* particularly in reduction of pain, dysuria and expulsion as well as descending the stones. Therefore *Kadali kanda swarasa* is better in providing the relief to the patients of *Mootrashmari*. No recurrence was reported by the patients within 3 months of follow up period as they had been instructed to drink sufficient quantity of fluid and dietary regimen to maintain adequate hydration and decrease chance of urinary super saturation with stone-forming salts.

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CORRESPONDING AUTHOR

Dr. Rajeshwari P.N
PhD scholar of Shalya Tantra
National Institute of Ayurveda
Jaipur – 302002 Rajasthan, India
Email: drrajeshwariphd@gmail.com

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