

Clinical Study

Management of *Mutrashmari* W.S.R. To Urolithiasis- A Comparative Study of *Varunadi Kwath* And *Trivikram Rasa*

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Abstract

Eight grave diseases which are difficult to treat and cause tremendous misery to sufferer has mentioned as *Mahagada* by *Acharya Sushruta*. *Mutrashmari* is one among these *Mahagada*. On the basis of symptoms, Urolithiasis described in modern surgical literature can be correlated with *Ashmari*. Treatment of Urolithiasis is chiefly surgical but at times results are not satisfactory or there is major concern regarding recurrence. Medical treatment as a main treatment or as an adjuvant to overcome recurrence has always been under investigation. In *Ayurveda* there have been many formulations available for treatment of *Ashmari* among which *Varunadi Kwath* and *Trivikram Rasa* has been indicated in the management of *Ashmari*. A clinical trial was planned to evaluate the efficacy in patients of *Ashmari*. Study was conducted according to special protocol designed for this purpose and the same was approved by competent authorities prior to commencement of study. Thirty nine patients were registered for the clinical trial and 30 patients completed trial and data obtained were used for interpretation and for drawing conclusion.

Key words: -*Mutrashmari*, *Mahagada*, Urolithiasis, *Varunadi Kwath*, *Trivikram Rasa*

सारांश-

आचार्य सुश्रुत ने महागदों का वर्णन किया है जिसका अर्थ है गम्भीर व्याधि जिसकी चिकित्सा कठिन हो और जो पीडित को अत्यन्त दुःख पहुँचाती हो 7 मूत्राश्मरी इन महागदों में से एक है विज्ञान के यूरोलिथियासिस के लक्षणों की तुलना करने पर वे मूत्राश्मरी से मिलते हैं, इसकी चिकित्सा मुख्यतः शल्य क्रिया है परन्तु पुनः उत्पत्ति हो जाने के कारण परिणाम संतोषप्रद नहीं हैं इस कारण पुनः उत्पत्ति को रोकने के लिये औषध चिकित्सा सदैव अनुसन्धान में रही है आयुर्वेद में अश्मरी की चिकित्सा के लिये अनेक योग बताये हैं जिनमे से वरुणादि क्वाथ व त्रिविक्रम रस एक हैं इनकी क्षमता को देखने हेतु एक नैदानिक परीक्षण किया गया इस अध्ययन हेतु एक विशेष प्रोटोकॉल बनाया गया व अध्ययन शुरू करने से पूर्व इसके लिये उचित अनुमति ली गयी कुल 39 रोगी रजिस्टर हुए जिनमे से तीस ने परीक्षण पूरा किया प्राप्त आंकड़ों के आधार पर निष्कर्ष प्राप्त किये गये।

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Management of *Mutrashmari* W.S.R. To Urolithiasis- A Comparative Study of *Varunadi Kwath* And *Trivikram Rasa*

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Introduction

Ashmari has been considered as one among the 'Astamahagada' i.e. one of the deadly diseases¹ because in this disease there is formation of stone, exerting severe pain as given by enemy. *Ashmari* specifically called as *Mutrashmari*, a disease of *Mutravaha Srotasa*. *Mutrashmari* can be correlated with Urolithiasis because the symptoms of *Mutrashmari* go on in accordance with symptoms of Urolithiasis of modern science. The cause of stone formation is not yet fully understood but in majority of the cases multiple factors are involved. Management of various types of *Ashmari* has been described in *Sushruta Samhita* in view of the fatality of the disease.² Due to possibility of treatment by medicines, treatment has been advised to be undertaken in the early stages of the disease.³ Indications for the surgical management has been given along with a note of caution regarding its dangers and doubtful chances of success. It was to be undertaken only on failure of conservative treatment and when death was inevitable if not treated surgically.⁴ So, recurrence of stone 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. There are various useful formulations described in *Ayurveda* classics for the management of above condition. *Sushruta Samhita* is the prime literature in the field of *Ayurveda* surgical conditions. He broadly described the various conditions related to urogenital system. *Acharya Chakrapani* also described many formulations for the management of *Mutrashmari*.⁵ Management for Urolithiasis also described in the *Laghutrayee*.

Aims And Objective

- To compare the efficacy of *Varunadi Kwath* and *Trivikram Rasa* in the management of *Mutrashmari*.
- To access the combined efficacy of *Varunadi*

Kwath and *Trivikram Rasa* in the management of *Mutrashmari*.

Materials And Methods

Inclusion Criteria

1. Age between 18 to 60 years.
2. Ultrasonological evidence of single calculus / multiple calculi 10 mm, present in kidney(s)/ ureter(s) / urinary bladder.
3. Willing and able to participate for study.
4. All the patients presenting with either following symptoms were selected for study-
 - Increased frequency of micturition (*Bahumutrata*)
 - Burning micturition (*Mutradaha*)
 - Interrupted stream of urine (*Mutravibandha*)
 - Nausea (*Utklesh*)
 - Vomiting (*Vamana*)
 - Fever (*Jwara*)
 - Dysuria (*Mutrakrichchha*)
 - Pain in flanks (*Katishool*)
 - Haematuria (*Rakta-Mutrata*)
 - Pyuria (*Pooya-Mutrata*)

Exclusion Criteria

- Age less than 18 years and more than 60 years.
- Patients with obstructive uropathy.
- Patients suffering from any major systemic disease like Diabetes Mellitus, Hypertension, Renal failure etc.

Sample Size: 30 Subjects diagnosed to have *Mutrashmari* fulfilling the Inclusion criteria.

Source: Subject selected from O.P.D. / I.P.D. at P.G. Department of *Shalya Tantra*, N.I.A. Jaipur.

Ethical Clearance: The study is approved by institutional ethical committee of N.I.A.

Informed Consent: The study explained clearly to the subjects & their signed, written informed consent was taken before starting the trial.

Investigations: For the purpose of assessing the overall condition of the patients complete urine (routine and microscopic), USG (KUB region) were carried out before and after completing the course of the treatment.

- In the present study total 39 patients was registered for study, out of which 30 patients completed the trial. All the relevant data regarding the clinical study were statistically studied on the 30 patients who complete the study.
- Study was conducted over patients having symptoms of *Mutrashmari* divided into three groups. The selected patients of Group A were treated with 25 ml. of prepared *Varunadi Kwath* with 500 mg. *Yavkshara* twice daily, Group B treated with *Trivikram Rasa* 250 mg. twice daily with *Beejpoorak Mool Kwath* and Group C treated with combined therapy of 25 ml. of prepared *Varunadi Kwath* with 500 mg. *Yavkshara* twice daily and *Trivikram Rasa* 250 mg. twice with *Beejpoorak Mool Kwath* for a period of 45 days and followed up every 3rd week for further 6 months.
- The assessments were done on these parameters: Pain, Burning Micturition, Dysuria, Hematuria, W.B.C. count of urine, Size of calculus and No. of calculus.
- For the assessment of the total effect of the therapy following four categories were taken into considerations by comparing assessment done on 1st day with the assessment done on 45th day-

Good response –

75% and above relief in presenting signs and symptoms of the disease.

Fair response–

50% to 74% Relief in presenting signs and symptoms of the disease.

Poor response–

<50% Relief in presenting signs and symptoms of the disease.

No response–

No Relief in presenting signs and symptoms of the disease.

Drugs

1. *Varunadi Kwath*⁶

Ingredients: *Varun*, *Pasanbheda*, *Shunthi*, *Gokshura*, *Yavakshar*

2. *Trivikram Rasa*⁷

Main Ingredients: *Parad*, *Gandhaka*, *Tamra Bhasma*

Other Ingredients: *Aja Ksheera*, *Nirgundi*

Anupana –*Beejpoorak Mool Kwath*

Observations And Results:

- It was found that *Mutrashmari* occurs in both sexes but most commonly observed in the male in between 18-30 years age group.
- Upper middle class and sedentary life style of persons were more prone to the disease.
- 61.54% of patients were complaining of Pain, 66.67% of patients were complaining of Burning micturition and 64.10% of patients were complaining of Dysuria.
- Maximum number of patients observed with Rt. sided single renal calculus of size between 5.1-10 mm.
- Group A (*Varunadi Kwath*) and Group B (*Trivikram Rasa*) was found to have significant effect on pain, burning micturition, dysuria, hematuria, W.B.C. count of urine, size of calculus and no. of calculus.
- Group C (*Varunadi Kwath* and *Trivikram Rasa*) was found to have very significant effect on pain, burning micturition, dysuria, hematuria, W.B.C. count of urine, size of calculus and no. of calculus.
- On inter-group comparison Group A (*Varunadi Kwath*), Group B (*Trivikram Rasa*) and Group C (*Varunadi Kwath* and *Trivikram Rasa*) showed

not significant effect on pain, burning micturition, dysuria, hematuria, W.B.C. count of urine, size of calculus and no. of calculus.

- None of patients were observed unchanged in the trial groups.
- Observations obtained from the trial groups had shown no side effects of the drugs.
- No recurrence was observed during the follow up.
- Overall effect of therapy in group A: 05 patients (50.00%) showed good response, 03 patients (30.00%) showed fair response, 02 patients (20.00%) showed poor response and no patient (00.00%) showed no response.
- Overall effect of therapy in group B: 03 patients

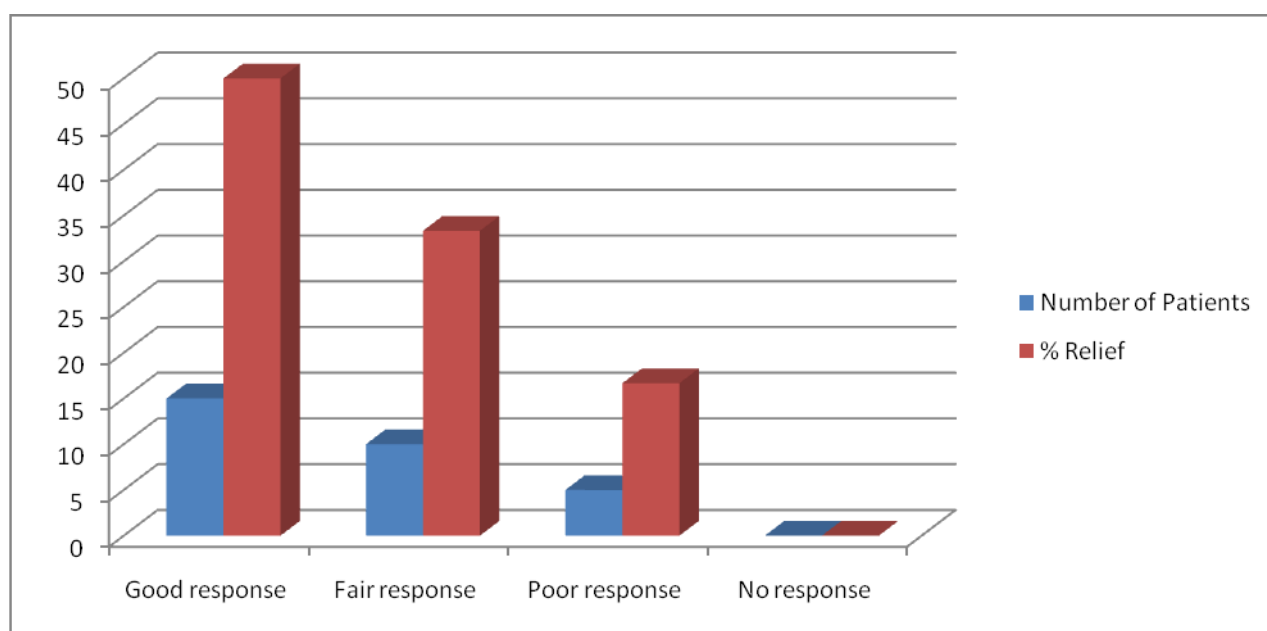
(30.00%) showed good response, 04 patients (40.00%) showed fair response, 03 patients (30.00%) showed poor response and no patient (00.00%) showed no response.

- Overall effect of therapy in group C: 07 patients (70.00%) showed good response, 03 patients (30.00%) showed fair response, no patient (00.00%) showed poor response and no patient (00.00%) showed no response.
- Overall effect of therapy in 30 patients: 15 patients (50.00%) showed good response, 10 patients (33.33%) showed fair response, 05 patients (16.67%) showed poor response and no patient (00.00%) showed no response. **(Table and Graph)**

Table: Overall effect of therapy on 30 patients of *Mutrashmari*

Results	Number of Patients	% Relief
Good response	15	50.00
Fair response	10	33.33
Poor response	05	16.67
No response	00	00.00

Graph: Showing overall effect of therapy on 30 patients of *Mutrashmari*



Discussion

- The frequency of occurrence of acute and chronic renal disorders has increased significantly in recent years due to changes in the environmental condition and dietary habits. Medical treatment is not satisfactory in many of the cases. Hence it would be highly desirable to have nephroprotective drugs in the therapeutic armamentarium. Although many advances have been made in this identification of risk factors for stone formation, there is as yet proven preventive or medical treatment. If we find out indigenous medicine that simply dissolve or expel the stone, it will be great achievement for a country like India. So this problem was selected for the present study taking all these points into effective consideration.
- However, age has no direct relation with the *Mutrashmari* formation but it is considered that 3rd and 4th decades of life are more prone to this disease (Robbins Pathology Basis of Disease, 5th Ed.).
- Relief in pain was observed might be due to *Vedana Sthapaka* properties of *Varun*, *Pasanbheda*, *Shunthi* and *Gokshura*, *Sothahara* properties of *Varun*, *Pasanbheda*, *Gokshura* and *Nirgundi*, *Vatanulomana* properties of *Varun* and *Shunthi*, *Ushna Virya* of *Varun*, *Shunthi*, *Nirgundi*, *Yavakshara*, *Parad*, *Gandhaka* and *Tamra Bhasma*.
- Relief in burning micturition was observed might be due to *Madhura Rasa* of *Varun*, *Gokshura* and *Beejpoorak*, *Madhura Vipaka* of *Shunthi*, *Gokshura*, *Parad* and *Beejpoorak* and *Sheeta Virya* of *Pasanbheda*, *Gokshura*, *Aja Ksheera* and *Beejpoorak*.
- Relief in dysuria might be due to *Vatanulomana* properties of *Varun* and *Shunthi*, *Mutrala* properties of *Varun*, *Pasanbheda*, *Gokshura* and *Yavakshara*, *Mutra-krichchhrahara* properties of *Varun*, *Pasanbheda* and *Yavakshara*.
- The observed effect on hematuria and WBC count of urine might be due to the *Sheeta Virya* of *Pasanbheda*, *Gokshura*, *Aja Ksheera* and *Beejpoorak*, *Mutrala* properties of *Varun*, *Pasanbheda*, *Gokshura* and *Yavakshara*, *Vranaropana Karma* of *Pasanbheda*, *Shunthi* and *Tamra*.

- The observed effect on **size of calculus and no. of calculus** might be due to the *Lekhana Karma* of *Yavakshara*, *Tamra*, *Bhedana Karma* of *Varun*, *Yavakshara*, *Ashmaribhedana Prabhava* of *Varun*, *Pasanbheda*, *Gokshura*.
- During follow up the patients were advised to attend the O.P.D. every 3rd week for further 6 months. No recurrence was reported by the patients within 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.

Probable mode of action of *Varunadi Kwath*:

The properties of the ingredients like *Kaphahara*, *Lekhana*, *Vedanasthapana*, *Vatanulomana*, *Shoolaprashamana*, *Daha Prashamana*, *Trishnahara*, *Bhedana*, *Shothahara*, *Mutrala*, *Mutra Virechaniya*, *Deepana*, *Pachana*, act on The *Dosha* (*Vata*, *Pitta* and *Kapha*), *Dushya* (*Mutra*), *Srotasa* (*Mutravaha Srotasa*) and *Agni*.

The ingredients of *Varunadi Kwath* pacify *Kapha Dosha* by virtue of their *Ruksha Guna*, *Katu Vipaka* and *Ushna Virya* and also show "*Lekhana*" property due to *Ushna Virya*. The *Lekhana Karma* is again enhanced by Famous *Lekhana Dravya* i.e. *Yavakshar*, which is one ingredient in it.

The *Vatanulomana*, *Shothahara* and *Mutrala* properties of ingredients help to relieve pain and *Sthanika Sotha*. *Deepana* property of drug helps to increase the *Agni*, which further check the formation of *Ama* at *Jatharagni* level itself. *Pachana* property of ingredients helps in as assimilations of drug in the body in case of *Jatharagnimandya*. Due to the *Ashmari Bhedana* or *Ashmari Hara* property of ingredients present in the drugs, stone might be dissolved.

Some compounds of the drug act as *Mutrala* (diuretic) by virtue of their *Sheeta Virya* and *Madhura Rasa*.

All the ingredients of the drug by their *Bhedana*, *Ashmarihara* and *Kaphahara Karma* along with *Mutrala Karma*, are helpful to reduce the size of the *Ashmari* and expelled it out from the body.

The ingredient (*Gokshura*, *Pasanbheda* etc.) in

good proportion with *Yavakshara* have cumulative effect as *Ashmari Bhedana*, *Mutrala* and *Vrana Ropana* and *Yavakshara* with its *Lekhana*, *Shodhana* etc. properties may have reduced the size of the stone and *Varunadi Kwath* made them easy to expel out.

Thus in total this formulation has the capacity to disintegrate the pathogenesis of the disease *Mutrashmari* and due to its diuretic action it flushes out the disintegrated *Mutrashmari* by the process of diuresis.

Probable mode of action of *Trivikram Rasa*:

Trivikram Rasa mainly consists of drugs of *Vayu* and *Agni Mahabhuta*. They are expected to act against vitiated *Kapha Dosha*, responsible for formation of stones which have dominance of *Prithvi* and *Jala Mahabhuta*.

Ingredients of *Trivikram Rasa* have *Vata Kapha Hara* properties. *Vata Dosha* is considered to be main factor responsible for pain and vitiated *Kapha Dosha* responsible for formation of stones. So due to *Vata Kapha Hara* properties of *Trivikram Rasa* it is most likely to provide relief in pain and stops formation of stones.

Constituents of *Trivikram Rasa* mainly consists *Katu*, *Tikta Rasa*, *Laghu*, *Sukshma* and *Snigdha Guna*, *Ushna Virya*, *Madhura* and *Katu Vipaka*. These pharmacological properties of *Trivikram Rasa* induce *Vatakapsha Shamaka*, *Agni Deepaka*, *Ama Pachaka*, *Lekhana*, *Vranaropana Karma*, *Shotha Hara* effects.

Tamra have *Deepana* effect which regulates *Jatharagni*. *Tamra* and *Gandhaka* have *Amapachana* properties. *Tamra* has a strong *Lekhana* effect and thus it is supposed to reduce the size of the *Ashmari* and expelled it out from the body. *Parada* and *Tamra Bhasma* have *Sroto Shodhana* effect which may relieve *Sanga* in the *Mutravaha Srotasa*.

Conclusion

From the study, it can be concluded that-

- ✓ *Varunadi Kwath* and *Trivikram Rasa* are effective in patients suffering with *Mutrashmari* (Urolithiasis).
- ✓ Combined therapy of *Varunadi Kwath* and *Trivikram Rasa* is more effective for the management of *Mutrashmari*.

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