

ROLE OF AYURVEDA IN MUTRASHMARI W.S.R. UROLITHIASIS- A REVIEW STUDY

Rathod Rohan Sheshrao¹ Ade Vinod²

¹PG Scholar, ²Professor;

Dept. of Kayachikitsa, MGACH & RC SALOD (H) Wardha, Maharashtra, India

ABSTRACT

Mutrashmari (Urolithiasis) is one of the most common diseases found in world. It is found that this condition has recurrence in nature in spite of removal of stone by surgical method in large number of cases. In India 5-7 million people are suffering from this disease, it occurs in both sexes but it commonly found highly in men and is becoming more common in young women. In *Ayurveda* text, Urinary calculus has been described in detail under the heading of *Mutrashmari*. Acharya *Sushrut* has described that *Ashmari* is surgical conditions. For treatment various herbs like *Kulattha* (*Dolicusbiflorus*), *Gokshura* (*Tribulusterrestris*), *Apamarga* (*Achayaranthsaspera*), *Pashanbheda* (*saxiferaligualta*) and *Varuna* (*Crataeva nurvela*) are also described for *Mutrashmari*. The study has been conducted to explore *Ayurvedic* clinical research in *Mutrashmari*. The review presented various clinical & experimental evidences in Urolithiasis. The studies are found on *Tribulusterrestris*, *boerhaviadiffusa*, *Dolichousbiflorus*, *SaxifragaLigulata*, *Aegle marmelos*, *Yavaksharadi yoga*, *Kulathyadi yoga*, *Varunmulatwakkashay*, *Narikelkusumayoga*, *Shvadmstradikwath*, *Paniyakamlanakshar*, *Varunadikwath*, *Chandraprabhavati*, *Nagradi Vati*, *Gokshuradiguggul*. All drugs showed potent Lithotryptic as well as Diuretic, Antibacterial, Anti-inflammatory which are beneficial in the management of Urolithiasis.

Keywords: *Mutrashamari*, Urolithiasis, Lithotryptic, Diuretic.

INTRODUCTION

Urinary stones belong to the group of bio minerals. Different organic and inorganic substances with a crystalline or amorphous structure are the major constituent of the stone.⁽¹⁾ Most of the kidney stones are calcium stones, composed of calcium oxalate and/or calcium phosphate. These stones are generally associated with high concentration of calcium in the blood or urine.⁽²⁾ Different symptoms due to the calculi are depended upon their size which ranges from few millimetres to the centimetres. The kidney stones below 5 mm

size which are flush out automatically by the urinary tract. But the stones more than 5 mm requires medical management otherwise it can lead to complications like dysuria, severe pain, hematuria etc.

The prevalence being high at any part of the world, males are affected more than females.⁽³⁾

Suppressing the natural urges is seen on large scale in daily practice and finally leading to illness. Urolithiasis is common and painful disease of urinary tracks. In *Ayurveda* urinary calculi have

been described in detail under the heading of *Ashmari*. It is one of the few surgical conditions which have been given very prominent place in *Ayurveda* by *Acharya-Sushruta*⁽⁴⁾. Types of *ashmari* according to *Sushrut*, *Charak*, and *Vagbhat* are *Vataj*, *Pittaj*, *Kaphaj* and *Shukraj*.^(5, 6, 7) There are such herbs which makes the treatment easier without any complication and also minimizing the risk of recurrence. *Vatajaashmari* can be correlate with calcium Oxalate calculus, *Pittajaashmari* can be correlate with uric acid, urate, cystine calculus and *Kaphajaashmari* can be correlate phosphatic calculus.⁽⁸⁾

Aim

The study has been conducted to explore *Ayurvedic* clinical research in *Mutrashmari* w.s.r. to Urolithiasis.

Material and Method

Classical texts of *Ayurveda* as well as Internets surfing like PUBMED were used for the search relevant research papers and literature regarding *mutrashmari*.

Observations and Discussion

Bilva (AeglemarmelosCorr.)

In *ayurvedic* text *Bilva Moola* is described as *Mutral* (diuretic).⁽⁹⁾ It is useful in *Ashmari* (urinarycalculi), *Sharkara* (concretions), *Mutrakrichha* (dysurea), *Mutrughat* (anuria), *Shotha* (oedema).⁽¹⁰⁾ *Bilva Patra* (leaves of *Aegle marmelos*) is useful in *Shothahar*.⁽¹¹⁾ In animal study of Neha A. Parmaret al, it has found that *Bilva* root showed a greater effect as diuretic in comparison to *Bilva* leaf, hence as per the concept leaves may replace root in *Dashamoola* and can be used as *Shothahara* but effect may be less compared to root part.⁽¹²⁾

Gokshur (TribulusTerrestris)

In *Ayurvedic* literature, *Gokshura* [*Tribulus terrestris*] is described as *Ashmarighna*, *Mehanashak* & *Vrushya*. It is known as potent *rasayana* drug of *Mutravaha srotasa*.⁽¹³⁾ In animal study of Chavva Pavitra

et al, there are five groups of albino rats the administration of the hydroalcoholic extract of *Gokru* along with the comestible effectively prevented the development of urolithiasis in rats treated with ethylene glycol. These findings rationalises the importance of proper diet composing in preventing urolithiasis. The results of the experiment have led to the conclusion that the synergetic effect produced when hydro alcoholic extract of *Gokru* was given along with the comestible showed better antiurolithic activity.⁽¹⁴⁾

Kulathya (DolichosBiflorus)

In *Ayurvedic* text, *Kulathya* is described as *Bhedak* (Lithotryptic) & *Mutral* (Diuretic).⁽¹⁵⁾

In clinical study of Rana Gopal Singh et.al, Forty seven patients with diagnosis of calcium oxalate renal calculi were taken in study. In first group (24 Patients) received *Kulattha* and in second group (23 patients) were given potassium citrate for a period of 6 months. *Kulattha* can be used to reduce the recurrence of calcium oxalate stone and it is shown to have a better result than the use of conventional potassium citrate in such patients.⁽¹⁶⁾

Pashanbheda (Saxiferalagulata)

In *ayurvedic* text, it is described as *Ashmaribhedak* (Lithotryptic) & *Mutral* (Diuretic) properties.⁽¹⁷⁾ It is *sheetviryatmak* (cold potency) drug.⁽¹⁷⁾ In animal study of Goswami Priyanka et.al, Ethanolic extract of *Saxifera lagulata* showed significant diuretic activity. Chemical entities of this plant have been used as an Anti-bacterial, Anti-inflametric, diuretic, Anti-urolithiatic.⁽¹⁸⁾

Combination of Drugs Formulation

1. In clinical study of B. Sheshashaye, total 60 patients were randomly selected. In which 30 patients were received placebo drug (group A) and 30 patients who received trial drug -

Yavaksharadi Yoga (Ingredients: *Gokshura* – *Tribulus terrestris* and *Yava Hordeum vulgare*) in the management of *Ashmari*. It is work in relieving the pain abdomen (*Shulahara*), Dysuria (*Mutrakruchrata*) and Haematuria (*Sarudhiramutrata*). It not only helps in removal of formed stone but also prevent new stone formation.⁽¹⁹⁾

2. In the clinical study of Dr. K. V. Chakradhar, total 28 patients were registered which were divided into two groups. Group I- Treated with Alkali preparation of Barley in *paneeyakshara* form orally comprised of 15 patients. Group II- Treated with PM(*PunarnavadiMandoora*, *Gokshuradiguggulu*, *Chandraprabhavati*) Compound orally. *PunarnavadiMandoora* contains *punarnava*, *trivrit*, *maricha*, *pippali*, *vidanga*, *kushta*, *pippalimula*, *musta*, *manduara*, *gomutra*. *Gokshuradiguggulu* contains *gokshura*, *pura*, *maricha*, *pippali*, *haritaki*, *vibhitaki*, *amalaki*, *musta*. And *Chandraprabhavati* contains *chandraprabha*, *vacha*, *musta*, *bhunimba*, *amrita*, *daruka*, *ativisha*, *vidanga*, *danti*, *patraka*, *eranda*, *sita*, *silajitu*, *guggulu*. In first group of Alkali preparation of barley given in *Paneeyakshara* form group 40% of patients were cured, 20% markedly improved, 20% improved and 20% remained unchanged. In second group of PM Compound (Standard Control Group), 10% patients were cured, 10% were markedly improved, 40% improved and 40% remained unchanged. So, here it can be concluded that Alkali preparation of barley given in *Paneeyakshara* form possesses the properties regarding to dissolution and removal of stones and can produce total

relief in sign and symptoms of Renal Calculi which proves that it is an ideal preparation for the management of Renal Calculi.⁽²⁰⁾

3. In clinical study of Siddaram Arawatti et.al, the samples divided in two groups, Group A- trial group (*Varunamulatwak kwatha*) and Group B- Control group (oral fluid intake or hydro therapy). It was found that, the lithotryptic action of the *Varunamula twak kwatha* was showing significant effect. And relief of Pain (76%), Haematuria (83%), Dysuria (76%), Size of calculi (74%) and Number of calculi (68.7%) was highly significant. Hence it was concluded that traditional *Ayurvedic* management is effective and have no adverse effects on the patients of Urolithiasis.⁽²¹⁾
4. In clinical study of Gajanan Hedge, 20 patients of *Mutrashmari* were selected administred *NarikelaKusuma yogawhich* contains *Panchakolachurna*, *Triphlachurna*, *Narikelakusuma* (flowers or blossms of *cocosnucifera*). It helps to reduce the symptoms as well as to reduce the size of the Urinary stone and eventually in flushing out. It can be concluded that the vaiparityaparinam of *paneeyakshara* will be very well counteracted by the virtue of opposite gunas present in *Narikela Kusuma yoga*. The formulation becomes safer, suitable and efficient by the addition of *Narikela Kusuma yoga*.⁽²²⁾
5. In clinical study of Prashant Saini et.al, the selected patients of Group A were treated with 25 ml of prepared *Varunadi Kwath* with 500 mg *Yavkshara* twice daily before meal, Group B treated with *Trivikram Rasa* 250 mg twice daily with *Beejpoorak Mool Kwath* before meal 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 *Beej-poorak Mool Kwath* before meal for a period of 45 days and followed up every 3rd week for further 6 months. *Varunadi Kwath* (*Varun, Pasanbheda, Shunthi, Gokshura, Yavakshar*) and *Trivikram Rasa* (*Parad, Gandhaka, Tamra Bhasma*) are effective in patients suffering with *Mutrashmari* (Urolithiasis). Combined therapy of *Varunadi Kwath* and *Trivikram Rasa* is more effective for the management of *Mutrashmari*.⁽²³⁾

6. In A Double blind randomised study of Aniruddha Roy et al, Renomet contains *Saxifragalingulata* 150 mg, *Tribulus terrestris* 100 mg, *Dolichos biflorus* 100 mg, *Crataevanurvala* 100 mg. The present study clearly showed that a multi-herbal product (Renomet) is safe and effective in not only reducing the size of stones but is also effective in eliminating the stones. Most of patients in the Renomet treated group passed stones within the treatment period and became symptoms free without any complication.⁽²⁴⁾
7. In animal study of Mitra, S.K et.al, the effect of Cystone, an herbal formulation, was studied on experimentally induced urolithiasis in rats. The animals (rats) were divided into five groups of eight each. Rats of first group received the commercial diet and served as control, second group was feed with a calculi-producing diet (CPD: commercial diet mixed with 3% glycolic acid) for 42 days. Third, fourth & fifth Groups received 250, 500 and 750 mg/kg body weight of Cystone, respectively once a day orally in addition to the calculi-producing diet for the same duration. The reduction in the stone forming

constituents in urine and renal tissue brought about by Cystone treatment in calculosis is noteworthy. These effects could contribute to the antilithic and lithotriptic property of this formulation.⁽²⁵⁾

8. In clinical study of Vishal Verma et.al, its open clinical trial, total 30 patients were selected randomly and treated with *Nagaradi Vati* for 90 days. And it's concluded that *nagaradi vati* showed highly significant results in pain, tenderness, and burning micturition, and significant results in pyuria and hematuria.⁽²⁶⁾
9. In case report of Dr. Sarang Deshpande et.al patient was administered a single therapy of Unex capsule (extracts of *Punarnava* and *Gokharu*) in a dose of two capsules thrice in day before meal initially for one month followed by two capsules twice in day for next two months. Then result found that after 3 and half month of treatment USG abdomen showed normal abdomen and pelvis with no evidence of calculus. No evidence of extrinsic mass effect or intrinsic filling defect.⁽²⁷⁾
10. In clinical study of Mohammed Thameem, 30 patients were treated with *Shvadmstradi Kvatha*, it's highly significant in sign and symptoms, Its reduced Pain abdomen 83.95 %, frequency of micturition 43.28 %, burning micturition 100 %, haematuria 100 % no of calculi 30.0 %, size of calculus 49.91%, descent of calculi 44.77%.⁽²⁸⁾

CONCLUSION

The review study showed significant efficacy of single as well as combination drugs in *Mutrashmari* due to its Lithotryptic property. Most of the studies are clinical and on *Tribulus terrestris* and *Saxifera lagulata*. No study showed any toxicity or side effects.

REFERENCES

1. Albrecht Hesse, H. G. Tiselius, Roswitha Siener, B. Hoppe, Urinary Stones: Diagnosis Treatment and prevention of Recurrence 2009; 3: 4.
2. Lemone Priscilla, Medical Surgical Nursing 2008; 4: 856
3. R.C.G. Russell, Normans William, Love & Bailcy short text book of surgery, Christopher J.K Bulstrode, 24th edition, oxford university U.S.A 2007
4. Sushrut Priyavat Sharma, Shri Anantram Sharma, Sushruta Samhita 1st part, nidansthan, Chapter no 3, 1st edition, chauhambasubharati publication, Varanasi, 2001.
5. Acharya YT, editor. Sushruta Samhita with Nibandha Sangraha Commentary. 7th ed. Varanasi: Chaukhamba Sanskrit samsthana; 2002. p. 277. (Ni. 3/7)
6. Acharya YT, editor. Charakasamhita of Agnivesha. 5th ed. Varanasi: Chaukhamba Sanskrit Samsthana; 2011. p. 499. (Ch. 26/ 32-32)
7. Paradkar H, editor. Astanga Hridaya with Sarvangasundari and Ayurveda rasayana commentaries. 9th reprint.
8. Thameem Mohammed Hemantha Kumar P. Diagnosis of Urinary Calculus - An Ayurvedic Perspective International Ayurvedic Medical Journal IAMJ: Volume 1; Issue 3; May – June 2013 ISSN:2320 5091
9. Anonymous. The Ayurvedic Pharmacopoeia of India. Part 1. Vol. 3., 1st ed. New Delhi: Govt. of India, Ministry of Health and Family Welfare, Department of I.S.M. and H.; 1999. pp. 29-31.
10. Kaideva, Kaiyadeva Nighantu, Aushadhi Varga/19, edited by Sharma PV, 2nd ed. Chaukhamba Orientalia, Varanasi, 2006; 6-7, 563.
11. Madhav, Vrindamadhav, Shotha/14, Translated by Tewari P, 1st ed. Chaukhamba Visvabharati, Varanasi, 2007; 399.
12. Neha A. Parmar, Bhupesh R. Patel, Mukesh B. Nariya A comparative experimental study to evaluate Mutrala (diuretic) activity of Bilva Moola and Patra (Aegle marmelos) Corr. AYU | Jul-Sep 2014 | Vol 35 | Issue 3
13. Dravya Guna vigyan Volume II, editor Prof. P.V. Sharma, Chapter No. 268, Chaukhamba Bharti Academy, Varanasi, Reprint 1999, p. 632, 633, 634.
14. Chavva Pavitra, Myreddy Jayasree, Srikanth Sharadha, Chidrawar Vijay R. Rao Uma Maheshwar Estimation of Antiurolithic Activity of Gokhru and Comestible in Experimental Urolithic Rats Asian Journal of Pharmaceutical Research and Development Vol.1 (6) Nov. – Dec. 2013: 62-69 ISSN 2320-4850 www.ajprd.com
15. Deshpande A.P., Javlgekar R.R., Ranade S. Dravya Guna vigyan Volume II, 2009, pg. 940.
16. Singh Rana Gopal, Behura Sanjeev Kumar, Kumar Rakesh Litholytic Property of Kulattha (Dolichous Biflorus) vs Potassium Citrate in Renal Calculus Disease : A Comparative Study JAPI • MAY 2010 • VOL. 58)
17. Deshpande A.P., Javlgekar R.R., Ranade S. Dravya Guna vigyan Volume II, 2009, pg. 952
18. Goswami Priyanka Kantivan, Sawant Mayuri, Shrivastav Rashmi S., Multifacilitated Saxifera lagulata Int. J. Res. Ayurveda Pharm 4(4), Jul-Aug 2013
19. B. Sheshashaye; P., Hemantkumar; Rao, Prasanna N. Clinical study of yavaksharadi yoga in the management of mutrashmari (urolithiasis) International Journal of Research in Ay-

- urveda&Pharmacy;Nov/Dec 2013, Vol. 4 Issue 6, p831
20. Dr. K. V. Chakradhar A Comparative Clinical Study on Renal Calculi – An Ayurvedic Perspective IOSR Journal of Dental and Medical Sciences (JDMS) ISSN: 2279-0853, ISBN: 2279-0861. Volume 2, Issue 5 (Nov.-Dec. 2012), PP 21-32 www.iosrjournals.org
21. Siddaram Arawatti, Seema Murthy, Pandey BB and Shringi MK Management of Urolithiasis (*Mutrashmari*) by an Ayurvedic Preparation *Varuna Mula* *latwak Kashaya* Arawatti et al., J HomeopAyurv Med 2012, 1:4 <http://dx.doi.org/10.4172/2167-1206.1000115>
22. Hedge Gajanan An observational clinical study on the *NarikelaKusuma Yoga* in *mutrashmari* vis a vis Urinary Calculi Journal of Biological &Scientific Opinion Volume 2(1).2014 ISSN 2321-6328
23. Saini Prashant, B.B.Pandey, Ashok Kumar, P.Hemantha Kumar A Comparative Clinical Study of *Varunadi Kwath* and *Trivikram Rasa* on *Mutrashmari* W. S. R. to Urolithiasis International Journal of Applied Ayurved Research ISSN: 2347- 6362
24. Aniruddha Roy, Anjan Adhikari, Sunil Kanti Das, Deepashree Banerjee, Radharaman De1, P. K. Debnath Evaluation of Efficacy and Safety of Renomet, a Polyherbal Formulation in the Treatment of Urolithiasis: A Double Blind Randomized Study.
25. Mitra, S.K., et.al, The Himalaya Drug Co., Makali, Bangalore, India. Effect of Cystone, a Herbal Formulation, on Glycolic Acid-induced Urolithiasis in Rats, *Phytotherapy Research* (1998): (12), 372-374
26. Vishal Verma et.al, Efficacy of *Nagaradi Vati* In the Management of Mutrashmari w.s.r. to Urolithiasis. *Asian Journal of Pharmaceutics* • Oct-Dec 2015 (Suppl) • 9 (4) | S68
27. Sarang Deshpande et.al, A Case Report of Urolithiasis of Patient with Multiple Bilateral Renal Stones. *International Journal of Scientific and Research Publications*, Volume 3, Issue 6, June 2013 ISSN 2250-3153
28. Mohammed Thameem, Clinical study of *shvadmstradi kwatha* in the management of *mutra ashmari* (urinary calculi) *Anc Sci Life*. 2013 Jan; 32(Suppl 2): S45. doi: 10.4103/0257-7941.123860

CORRESPONDING AUTHOR

Rathod Rohan Sheshrao

PG Scholar Dept. of Kayachikitsa

MGACH & RC SALOD (H)

Wardha, Maharashtra, India

Email: Rohanrathod21@gmail.com

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