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

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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 (Tribulusterristris), Apamarga (Achyaranthasaspera), 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 Tribulusterresris, boerhaviadiffusa, Dolicousbiflorus, 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 ashamari 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), Shankara (concretions), Mutratrichha (dysurea), Mutraghat (anuria), Shotha (oedema).\(^10\) Bilva Patra (leavesof 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 srotaS\(^13\) 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 antiurithic 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.\(^16\)

**Pashanbhedha (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-inflamet, 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 terrestis 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.

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, mandura,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, silajittu, 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 werecured, 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.

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.

4. In clinical study of Gajanan Hedge, 20 patients of Mutrashmari were selected administred NarikelaKusuma yogw-hich containsPanchakolachurna, Triphlachurna, Narikelakusuma (flow-ers or blossms of cocosnuicifera). 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 thevirtue ofoppo-site gunas present in Narikela Kusuma yoga. The formulation becomes safer, suitable and efficient by the addition of Narikela Kusuma yoga.

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 Beeppoorak 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 Beejpoorak Mool Kwath before meal for a period of 45 days and followed up every 3rd week for further 6 months. Varunadi Kwath (Varun, Pashanbhed, Shunthi, Gokshura, Yavakshara) 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, Tribulusterrestris 100 mg, Dolichobiflorus 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 calculus 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 lithotriptic property. Most of the studies are clinical and on Tribulus terrestris and Saxifera lagulata. No study showed any toxicity or side effects.
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