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A Clinical study on Ashmaribhedan Compound with special reference to Ashmari (Urolithiasis)

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Abstract: Background: Urinary stones may be associated with metabolic disease or may occur secondary to urinary infections. The principles of treatment for urolithiasis have been precisely laid out in ayurvedic texts. They involve formulation of various herbs and minerals in precise proportions with specific processing methods. **Methods:** In this clinical trial, total 40 patients of urinary calculus attended OPD and IPD of Government Ayurved Hospital, Nagpur were selected randomly. Group-A (Experimental Group) was treated with the special compound i.e., Ashmaribhedan Compound given in a quantity of 5 mg with sweet homemade curds while Group-B (Control Group) was treated with Pashanbhed Churna, given in a quantity of 5 gm. with luke warm water twice a day for 21 days. **Results & Conclusion:** The incidence of urinary calculus was found more in male patients than in female. Urinary calculus commonly occurs in middle age group. Renal calculi were maximum in number while ureteric stone was found in minimum number of patients. The statistical analysis as well as clinical study shows that the Ashmaribhedan Compound with its various ingredients, possessing stone dissolving anti-infective, antiseptic, diuretic and antispasmodic properties. Ashmaribhedan Compound is easily available and cost-effective therapy.

Keywords: Ashmaribhedan, Pashanbhed Churna, Ashmari, hematuria, Dysuria

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Introduction:

Ayurveda is a boon, gifted to humankind by the Divinity guiding us how to live a healthy and prolonged life. Human body is mysterious. It is made up of so many systems which, all the systems together play an important role for the smooth and regular working of human body. Urinary system is not an exception to it. If this system is working properly nobody realizes its importance. But all the individuals are not that fortunate to have undisturbed functioning urinary system. Because of life from birth to old age, at all stages of life the affection sometimes disturbs whole of life and it becomes something like nightmare. The calculus disease is an ancient malady, is amply evident from the reports in the literature. [1] Urinary stones usually result from the breakdown of the delicate balance of colloids and crystalloids. Kidneys have to conserve water and excrete toxic materials. This dual function in presence of climatic and dietary variations has to balance under normal physiological conditions to prevent stone formation.[2] Urinary stones may be associated with metabolic disease or may occur secondary to urinary infections. Majority of the patients with urinary stones have remediable metabolic aberrations and infections. Right from Sushrut era, anomalies and affections of urinary tract were known.[3] But the basic concept as to how and where formation of urine takes place was different from the reality which is known in present era. Some surgical procedures were in practice to remove urinary stone. But truly speaking improvement in the surgical techniques did not develop much. But medicinal treatment was very effectively formulated which could be used in today's modern era very effectively with satisfactory

results.[4] Till very recently, modern medicine also could not develop effective remedies, either surgical or medicinal for the affections of urinary stones. But in the recent years there is drastic and fast progress in the management of urinary calculus and this has dramatically changed the prognosis and fate of disease.[5]

Biotechnologist invented non-invasive techniques for the treatment of urinary stones. Availability of lithotripsy, endoscopes, laser techniques along with biochemical and pathological. No medical discipline can give total satisfactory results. Surgical intervention can only serve as a temporary relief in calculus obstruction, but cannot prevent recurrence which is common after surgical removal of calculus. The search, therefore, for a preventive measure of this condition should continue to be made.[6]

The present project is partial fulfillment of the above purpose, the present study entitled "The need. To serve Clinical Study On Ashmaribhedan Compound With Special Reference To Ashmari (Urolithiasis)" was carried out. The principles of treatment for urolithiasis have been precisely laid out in ayurvedic texts. They involve formulation of various herbs and minerals in precise proportions with specific processing methods.[7] Ashmaribhedan Compound is one of them. It contains five ingredients namely Gokshur (*Tribulus terrestris*), Kokilaksh (*Asteracantha longifolia*) Erand (*Ricinus communis*), Bruhati (*Solanum Indicum*), Kantkari (*Solanum Xanthocarpum*).[8,9,10]

Aim and objectives of the study :

1. To evaluate the effect of above said compound i.e., Ashmaribhedan compound with reference to Ashmari.
2. To evaluate the symptomatic relief from associated symptoms like colicky pain, hematuria, burning micturition, dysuria etc.
3. To establish the efficacy of cost effective and simple medicinal therapy to avoid surgical procedure.
4. To review the ayurvedic as well as modern literature regarding the Ashmari.

Materials and Methods:

For the clinical trials, total 40 patients of urinary calculus attended OPD and IPD of Government Ayurved Hospital, Nagpur were selected randomly. The patients were treated in two divided groups each of 20 patients. Group-A (Experimental Group) was treated with the special compound i.e., Ashmaribhedan Compound given in a quantity of 5 mg with sweet homemade curds while Group-B (Control Group) was treated with Pashanbhed Churna, given in a quantity of 5 gm. with luke warm water twice a day for 21 days.

The duration of treatment for both the group was 3 weeks or till the passing of stone whichever occurs earlier. Special proforma was prepared for the record and assessment of the patients.

Criteria of Selection of Patients

1. Any patients suffering from urinary calculus of size less than 1cm. (6 mm in case of ureteric calculus) who attended the O.P.D. as well I.P.D. of Government Ayurved Hospital, Nagpur were selected randomly.
2. Patients without any major complications like obstructive

uropathy, renal failure, renal hypertension, diabetes mellitus etc. were selected based on signs, symptoms, pathological as well as radiological investigations.

3. The patient who had either positive radiological diagnosis of calculus or significant evidence of crystals in urine were selected for the present clinical study.

Criteria of Rejection of Patients

1. The patients having major complications like obstructive uropathic, renal failure, renal hypertension, diabetes mellitus, severe hydronephrosis, acute retention of urine and those who were indicated for urgent surgical removal of calculus.
2. The patients with no symptomatic relief within 7 days of trial treatment were terminated from the study and advised for the surgical removal of calculus.

Investigations

a. Urine examination

Urine was subjected for routine and microscopic examination before and after treatment. The changes occur after the treatment were taken into consideration for the assessment.

- b. **Blood investigations** such as Hb%; TLC. DLC, ESR, Blood urea, sr. creatinine, blood sugar was done to rule out any abnormality.

c. Radiological Investigations

X-ray KUB, sonography of abdomen as well as I.V.P.(Intravenous Pyelography) were done before and after treatment. Changes occurs were taken into consideration for the assessment.

Criteria of Assessment

The main criteria of assessment of present clinical study were based on the symptomatic relief of associated symptoms. Apart from above passing out of Ashmari was also taken into consideration. Gradation of the symptoms for the assessment was as follows.

PAIN

Grade 0 -Absent.

Grade 1 -Only during micturition, or intermittent.

Grade 2 - Continuous dull ache not disturbing daily

Grade 3 -Severe colicky pain disturbing daily routine.

HEMATURIA

Grade 0- Passing out RBCs in urine micros/apsc

Grade 1- Below 4 RBCs/HPF

Grade 2- 5-10 RBCS/HPF

Grade 3 -Above 10 RBCs/HPF - Visible by naked eyes (Pink or red colour urine)

BURNING MICTURITION

Grade 0-Absent.

Grade 1 During Micturition.

Grade 2 Upto 1 hr. after micturition.

Grade 3 More than 1 hr. after micturition.

DYSURIA

Grade 0- Absent

Grade 1 - Present

FEVER

Grade 0- Absent.

Grade 1 -Present.

CRYSTALS IN URINE

Grade 0- Absent.

Grade 1-Present.

X-Ray KUB/Sonography:**FOLLOW UP:**

The patients were asked to follow up weekly, and changes occurs during the treatment were recorded in the proforma for the assessment. Patients were advised to follow a specific dietic regime which avoid food with high oxalate content encourage calcium oxalate stone formation, the most common type of renal stone. If level of urinary oxalate is high, limiting high oxalate foods reduce risk of forming renal stones. Foods's rich in uric acid, purines increase urinary excretion of uric acid.

RESULTS AND OBSERVATIONS:

All these 40 patients of urinary calculus were diagnosed based on signs and symptoms complained by the patients and clinical examination. However, urine examination, radiological as well as sonological and with investigations were done to confirm the diagnosis for the site, size and number of calculi. Blood urea and serum creatinine was also done before treatment to rule out normal kidney function. All these patients were treated and they were subjected to follow up in interval of 7 days for 21 days. The changes so occur clinically and radiologically were recorded for the assessment.

A. Basic Demography:

Sex : Out of 40 patients treated there were 29 patients were male while only 11 patients were female. Percentage of male female distribution was 72.50% and 27.50% respectively.

Age: The age wise distribution shows that maximum number of patients i.e., 20 (50%) from the age group of 31 to 45 yrs. Religion: Maximum number of patients i.e. 36 (90%) were from Hindu community.

Educational Status: Only 03 (73%) patients were illiterate among the 40 patients of calculus in present clinical study.

Economical Status : Maximum number of patients i.e., 21 (52.50%) from middle class were found during the study.

Occupation: The maximum number of patients i.e., 13 (32.50%) were doing desk work.

Habitual History: 22 (75.86%) male patients were addicted to some sort of bad habits, maximum number of patients i.e., 18 (62.06%) patients were addicted to alcohol.

Dietary Habits: About 33 (82.50%) patients had mix dietary habits.

Family History: Maximum number i.e. 33 (82.50%) patients had no family history of

urolithiasis. History of Stone: Only 08 (20.00%) patients with positive history of stone were found.

Prakruti: Maximum patients of vatakaphaj prakruti i.e. 24 (60%) were found in present clinical study. site of Stone: Maximum number of patients of renal calculus i.e., 13 (32.50%) were found.

Number of calculi : In present study 22 (55%) patients were suffering from single urinary calculus while 18 (45%) patients had multiple calculus either unilateral or bilateral.

Types of Stone: Maximum number of vatajashmari were found i.e., in 35 (87.50%) patients during the clinical study.

B. Table no 1. Clinical Assessment between Group A & Group-B :

Symptoms	Parameters	Group-A		Group-B	
		BT	AT	BT	AT
Pain	Mean	1.1	0.25	1.15	0.5
	Median	01	00	01	00
	SD	0.788	0.44	0.988	0.688
Hematuria	Mean	1.15	0.25	1.15	0.45
	Median	01	00	01	01
	SD	0.812	0.44	0.933	0.510
Burning micturition	Mean	1.1	0.25	1.15	0.55
	Median	01	00	01	01
	SD	0.967	0.55	0.988	0.825
Dysuria	Mean	0.55	0.2	0.50	0.20
	Median	01	00	0.5	00
	SD	0.510	0.410	0.512	0.410
Fever	Mean	0.25	0.05	0.20	0.1
	Median	00	00	0.0	00
	SD	0.44	0.223	0.410	0.307

The above statistics shows that there is a statistically significant results is seen in each group on Pain, Hematuria, Burning

micturition, Dysuria and Fever as p value seen in <0.05 in these parameters of Ashmari.

Table no 2 Statistical test applied for Subjective assessment on patients of Ashmari:

Symptoms	Group	SD(T+)	T+	Z value	P value
Pain	Group-A	25.65	195	3.801	<0.05
	Group-B	25.12	165	3.824	<0.05
Hematuria	Group-A	25.83	195	3.774	<0.05
	Group-B	24.24	144	2.969	<0.05
Burning micturition	Group-A	25.82	189	3.660	<0.05
	Group-B	25.01	165	3.298	<0.05
Dysuria	Group-A	22.48	119	2.646	<0.05
	Group-B	21.43	105	2.449	<0.05
Fever	Group-A	18.50	74	2.000	<0.05
	Group-B	13.78	39	1.414	0.15

The above findings show that symptomatic effect of therapy in both the group was highly significant in the parameters like Pain, Hematuria, burning micturition, Dysuria and Fever however percentage of relief was more in Group-A than Group-B. This shows that study Group-A treated with Ashmarubhedan has better results than Group B.

DISCUSSION :

It is believed that 40 percent peoples are suffering from urinary disorder in India. Urolithiasis is one of them. In developing countries like India malnutrition, lack of pure and clean drinking water, illiteracy. poor economic condition may leads to urolithiasis. In economically sound peoples, excess consumption of alcohol, meat and protein are few causes for the disease. Acharya Sushrut considered 'Ashmari' as a Mahagad which is troublesome and difficult to treat. Now-a-days recent surgical break-through and invention of instruments makes diagnosis and surgery of urolithiasis easier and more convenient. But surgical treatment gives only temporary relief and it cannot prevent recurrence of stone. Ayurvedic texts contain plenty of herbal medicines

prescribed by different Acharya time to time for the management of urinary calculus. Acharya Charak described in chikitsa sthan 26/62, that the Ashmaribhedan Compound which is a mixture of five herbal plant's foot powder in equal quantity has lithotriptic effect when given with sweet homemade curd for seven days. Taking all these points into consideration, patients of urolithiasis were selected and treated with 'Ashmaribhedan Compound' to get the possible results under the present series of work.

ACTION OF ASHMARIBHEDAN COMPOUND

Ashmaribhedan compound with its properties like Madhur rasa, Guru, Snigdha guna, Sheet veerya, Madhur vipak, it is effective in burning micturition. Its analgesic and antispasmodic action is due to Madhur rasa, Guru, Snigdha guna and Madhur vipak which leads to vatashaman and hence reduces the pain. Madhur rasa, Guru, Snigdha guna, increases kleda in body and quantity of urine is also increased hence the dysuria get relieved. Due to its diuretic action small stones desent and obstruction due to stone

get relieved. Guru guna of compound is helpful for this activity. Hematuria is controlled by Madhur rasa, Sheet Veerys and vranaropan property of the compound. Madhur rasa, Sheet veerya of compound is responsible for pittashaman and hence fever which is symptom of pittadosha is also relieved. This compound has an excellent Bhedan, Lekhan and Mootral properties which helps to disintegration and flushing out the stone through the urethra.

CONCLUSION:

The incidence of urinary calculus was found more in male patients than in female. Urinary calculus commonly occurs in middle age group. Economically sound and middle class was found to be more affected. Poor personal hygiene, defective sanitation, low protein and vitamin deficient diet, well water and taking mostly katu rasatmak, ruksha ahar, regular non-veg diet may cause urinary calculus. Adhyashan, indigestion, excess consumption of alcohol, vigorous exercise are few responsible factors for the formation of calculus. Renal calculi were maximum in number while ureteric stone was found in minimum number of patients. Pain was the main presenting symptom in majority of cases. Gross hematuria was not a very common presenting symptom, but microscopic hematuria was present in above 80% cases. The statistical analysis as well as clinical study shows that the Ashmaribhedan Compound with its various ingredients, possessing stone dissolving anti-infective, antiseptic, diuretic and antispasmodic properties, has a concerted multipronged action in clearing gravel and stones from the

urinary system. Ashmaribhedan Compound is easily available and cost-effective therapy. No significant complications or side effect of Ashmaribhedan Compound is observed during the treatment.

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