Efficacy of Ayurveda Formulations and Basti Chikitsa on Mutraghata W.S.R. to Benign Prostatic Hyperplasia: A Review on Researches Conducted at Gujarat Ayurved University, Jamnagar

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ABSTRACT

Benign Prostatic Hyperplasia (BPH) is major geriatric problem of obstructive uropathic disorders described in Ayurveda classic as one type of Mutraghata (urinary disorders). Twelve types of Mutraghata reflect the symptoms of retention, incomplete voiding, dribbling, hesitancy, incontinence of urine, etc. These are basically presented the features related to the Lower Urinary Tract Symptoms (LUTS) and can be co-related with Benign Prostatic Hyperplasia (BPH) in modern parlance. BPH is a non-malignant enlargement of the prostate gland, caused by the excessive growth of prostatic nodules. The overall incidence rate of BPH is about 15 per 1000 men per year. The conservative treatments have been mentioned to relieve the obstructive uropathy by reducing prostate size and enhancing the tone of urinary bladder musculature in contemporary medical science. Similarly in Ayurveda also, various researches are going on to find out a suitable treatment option to manage Mutraghata. In the Sushruta Samhita the choice of treatment for Mutraghata is Uttara Basti as Shodhan Chikitsa. In this review, in most of the studies Matra Basti was given in one group of patients and showed the encouraging results. This review article is attributed to the researches on Mutraghata carried out at I.P.G.T. & R.A., Gujarat Ayurved University, Jamnagar, Gujarat.

KEYWORDS: Ayurveda, Benign prostatic hyperplasia, Uttara Basti, Matra Basti, Mutraghata.

INTRODUCTION

Sushruta Samhita, one among the Brihatrayee (Three literature of Ayurveda), describes twelve types of Mutraghata. The word 'Mutraghata' comprises of two different words i.e. 'Mutra' and 'Aghata', which stand for low urine output due to obstruction in the passage of urine. The sign and symptoms of Mutraghata is closely resemble with the Benign Prostatic Hyperplasia (BPH).[1] According to Ayurveda, Mutraghata is manifested due to deranged function of Apana Vayu along with the vitiating of Kapha and Pitta Dosha. The vitiated Doshas are produced in the body due to improper of Ahara Vihara (diet and activity or daily regimen), Ritu Parivartan (seasonal changes) and Vaya (advancement of age). Ultimately, they travel through Sukshma Srotasa and finally Doshas are settle down at the Kha Vaigunya (diseased area) i.e. Basti Pradesh (urinary bladder) and developed the clinical entity Mutraghata. The symptoms like retention of urine, incomplete voiding, dribbling, hesitancy etc. are found in Mutraghata.

Benign Prostatic Hyperplasia (BPH) is most common lower urinary tract disorder in modern medicine. It is a non-malignant enlargement of the prostate gland caused by either excessive hyperplasia of prostatic tissue. It is an old age related disorder found in men and responsible for significant morbidity in older age groups which hamper the quality of life. The growth / neoplastic changes in the prostate gland occurs due to the changes in the level of hormonal imbalance especially androgens and oestrogens.[2] Incidence rates increase from 3 cases per 1000 man per year at the age 45–49 years, 38 cases per 1000 men per year by the age of 75–79 years which shows the vulnerability of the disease at terminal age. The treatment options in modern medicine is either by conservative treatment using drugs...
(hormonal therapy, chemotherapy etc.) or surgical intervention like open prostatectomy, Transurethral resection of Prostate (TURP), cryotherapy etc. In case of hormonal therapy there are complications like loss of libido, impotence and gynecomastia. Despite of the extensive researches till date there is no complete therapy to manage Benign Prostatic Hyperplasia (BPH) in modern medicine. [3]

Various treatment options like Shodhan Chikitsa and Shaman Chikitsa in form of Kashaya (decoction), Kalka (paste), Ghrita (medicated ghee) and Kshara (caustics) are mentioned under Mutraghata. Keeping to the consideration of line of management, the treatment methods which are adopted for Mutrakrivchahara like Abhyanga, Niruha Basti, Snehapana, Uttara Basti, Seka, Pradeha, Virechana etc are advised for all varieties of Mutraghata. These procedures are being selected as per the predominance of individual Doshas. In Sushruta Samhita Nididhikaaadi swaras, Amalaka swaras, Elayukta dhaatri swaras, Mustadi kalka, Abhayadi kalka, Baladali kalka, Ervaru (Cucumber) kalka, Mutradosahara Ksheerapanaka, Mutrarakta yonidoshahara ghrita, Baladi ghrita, Mahabala ghrita, Patolayadi kshara are mentioned. [4] The drugs like Shatavaryadi kwatha, Vyoshadi churna, Pashanabhedadi churna, Punarnavadi mishraka sneha, Shwadanstra ghrita (Gokshuradi ghrita), Purnavadi panyoga, Saptachchhadadi yavagu are found in Charak Samhita. [5] In Asthang Sangraha, the description of Kantakaari swaras, Duralabha swaras, Trupashadi kalka, Simhyadi kalka, Sasaindhava triphala kalka, Haritakyadi kwatha, Shringastaka Trinapanchamuladi kwatha, Pashanabhedadi kwatha, Dashamooladi ghrita, Tilvaka ghrita, Patala Kshara, Gokshura kantakari Siddha yavagu are found. [6] The specific formulations such as Dhanyaka-gokshura Ghrita, Dhanyaka-gokshura kwatha, Kulatha sidhhsa ghrita, Vidari ghrita are cited in Bhavprakash. [7] In the context of Mutraghata, Sharangadhara has given the descriptions of Chandraprabha vati, Gokshuraadi Guggulu and Changeri ghrita. [8]

In this article total 10 research studies have been reviewed out of which 04 Matra Basti, 04 with Oral Medication. Studies on Matra Basti and 02 studies on Uttara Basti which were carried out at IPGT & RA Jamnagar to find the effective modalities or formulations in the management of Mutraghata.

MATERIAL AND METHODS

**Materials:** Research works done on the management of Mutraghata were collected manually from the library of department of Shalya Tantra, and data available in Ayurveda database, on all PG/Ph.D. theses carried out at I.P.G.T. & R.A. Jamnagar.[9]

**Methods:** After review of research work done on Mutraghata it was observed that most of the scholars have selected Matra Basti along with oral different formulations as mentioned in the classics. So the methodology adopted for Matra Basti and Uttara Basti is given as follow.

**BASTI PROCEDURE**

**Poorva Karma (Preoperative measures)**

Patients were advised to pass the natural urges particularly stool and urine before procedure. All patients were advised for nil oral before the administration of Basti.

Required Basti materials like Sterilised rubber catheter, 50cc syringe, gloves and gauze pieces etc. were kept ready before administration of Uttara Basti.

**Pradhan karma (Operative measures)**

Patient was kept in left lateral position for Matra Basti and supine position for Uttara Basti. The selected oil / Ghrita was warmed up to room temperature. A lubricated rubber catheter was inserted in to the rectum and approximately 60 ml of selected Ghrita / Tail was slowly administered with help of a plastic syringe. In case of Uttara Basti the genital area was cleaned with betadine followed by 30-50ml Tail was administered with help of a sterilised catheter. Patient was advised to inhale and exhale deeply and keep himself as relaxed as possible during administration. Basti was given for continuous 21 days once a daily before breakfast.

**Pashchata Karma (Post-Operative measures)**

After Basti patient was advised to lie down in left lateral position for 10 minutes. Patient shifted to ward and hot water bag was provided for local Svedana at lower abdomen. Patient was advised to retain the Basti material for maximum time as possible. The Pratyagamana kala (retention time) of Basti was noted daily. Light diet was allowed after one hour.
RESULTS

Clinical evaluation of Mustadi Kalpa in the management of Mutrakghata. [10] The Clinical study was planned with aim to assess the efficacy of Mustadi Kalpa in the senile enlargement of prostate. Total 14 patients of Benign Prostatic Hyperplasia were selected and divided into 2 groups. In first group the patients having history of benign enlargement of prostate with chronic retention of urine without incontinence and with incontinence in second group. Mustadi Kalpa (Musta (Cyperus rotundus), Deodaru(Cedrus deodara), Haritaki(Terminalia chebula) and Yastimadhu (Glycyrrhiza glabra) in powder form orally 10 gm once in the morning was administered for 3 weeks with lukewarm water in Apana Kala (before breakfast). Diurnal frequency showed highly significantly (p<.001) relief and nocturnal frequency showed significant (p< .01) relief in both groups. In weak stream highly significantly (p<.001) improvement in first group and significant (p< .01) improvement was noticed in second group. In hesitancy and intermittency significant (p< .05) improvement was observed in first group where as significant (p< .01) improvement was noticed in second group. In incontinence highly significant (p< .01) improvement was observed in both groups. Finally study concluded that Mustadi Kalpa is effective treatment for the symptomatic management of BPH.

Role of Devadarvdyadi Compound and Basti in the management of Mutrakghata. [11] The aim of study was to evaluated the role of Devadarvadyadi compound orally, Niruha Basti of Devadarvadyadi Kwatha and Eranda Taila Anuvasan Basti in the management Mutrakghata (BPH). Total 24 patients of BPH were selected and equally divided in three groups. In group-A Devadarvadyadi compound (Devadaru, Musta, Haritaki, Vastimadhu, Punarnava, Pashanabheda, Gokshura, Svetachandana, Kamala, Useera) orally in powder form 10gm/day with lukewarm water in Apana Kala (before food) for one month. Niruha Basti (80gm for Kwatha, 40g for Kalka of coarse powder of Devadarvadyadi compound and 120ml Erand Tail, Saindhava lavana 5gm) and Anuvasan Basti of Devadarvadyadi Kwatha and Eranda Taila (100ml) was administrated alternate day for the duration of 8 days. In group B only Devadaryadi compound in powder form orally was given. In Group C only Niruha and Anuvasan Basti therapy was given. Nocturia was relieved by 83.11% in group A, by 79.20 % in group C and by 27.75 % in group B. Dysuria was relieved by 81.00 % in group A, 75 % in group C and by 31 % in group B. In Stream change 77.09 % relief was seen in group C, 73.86 % in group A and by 36.70 % in group B. In Hesitancy 80.00 % relief was seen in group A, 25 % in group C and B. Urgency relieved completely in group A & B where as in group C relief seen was only 64 %. Dysuria disappeared completely in group A & B where as in group C relief was seen 27.53 % only. Incontinence was relieved 100 % in group A, 66.67 % in group C and 25 % in group B. Haematuria was relieved up to 100 % in group A & B, where as in group C 66.67 %. Residual urine volume was reduced 87.90 % in group A, 76.06 % in group C and 45.50 % in group B. The study concluded that Devdarvadyadi Compound is an effective formulation for Mutrakghata.

Role of Punarnavadi Compound in the Management of Mutrakghata w.s.r. to BPH. [12] The study planned with objective to evaluate the role of Punarnavadi compound as a safe and effective medical treatment for the Mutrakghata w.s.r. to BPH. For that purpose 22 patients of Mutrakghata were selected and divided into two groups. In group-A (n=12) Punarnavadi compound Vatee (Punarnava, Varuna, Gokshura, Pashanabheda) 1g three times a day orally was given for 2 months. In group-B (n=10) patients were treated with placebo therapy of empty capsule in a dose of 1g three times a day for two months as a control group. Average 50% and 5.88% relief was noticed in residual urine, average 50% and 0% relief was noticed in mean urine flow rate, average 11.34% and 0.18% relief was noticed in total WBC count, average 21.59% and 1.0% relief was noticed in blood urea in group-A and group-B respectively.

A Clinical Evaluation of Mahayavanala Roma Kshara and Uttara Basti of Tail in the Management of Mutrakghata. [13] In this study Total 12 patients were registered. Initially the Patients were advised to follow the ‘Pathya’ regimen like, Takra, Ksira, Masuya, Dadhi, Mudga yusa and Usna jala. Mahayavanala Roma Ksara 500mg BD orally given for 30 days in Apana Kala in capsule form and Uttar Basti of Tail 30-50ml which is mentioned under Vataga Mutrakriccha Chikitsa was given for 15 days. [14] The following ingredients were used for the preparation of Tail
i.e. (Tila taila, Goghrita, Gokshura, Pasanbheda, Jalakumbhi (Pistia stratiotes), Hapusa (Juniperus communis), Kantakari (Solanium surattense), Bala (Sida cordifolia), Shatavari (Asparagus racemosus), Rasna (Pluchea lanceolata), Varuna, Aparajita and Vidarigandhadi gana dravyas). after the completion of study, Relief in subjective complaints i.e. 50% in Nocturia, 55.55% in Straining to begin urination, 67.85% in weak stream, 42.84% in Difficulty to postpone urination, 56.09% in Prolongation of voiding time, 58.53% in Diurnal urination, 52.08% in feeling of Incomplete emptying were found. Residual urine volume was significantly reduced up to 58.46% whereas statistically highly significant result was found in increase in the mean urine flow rate (23.25%).

Role of Mustadi Kalpa in the management of Mutraghata w.s.r. to Benign Prostatic Hyperplasia. [15] The study was designed with aim to find clinical efficiency of Mustadi Kalpa (Musta, Haritaki, Devardaru, Murva, Yashtimadhu) in Mutraghata (Benign Prostatic Hyperplasia). In this study 22 patients of Mutraghata were registered and treated with Mustadi Kalpa orally in powder form 10gm/day with lukewarm water in Apana Kala for 3 weeks. After assessment of total effect of therapy, significant relief on the subjective as well as in objective parameters was recorded. The subjective complaints were relieved significantly in the range of 27 to 56%. Residual urine volume was significantly reduced by 28.00% whereas statistically highly significant result was found in increase of 22.55% in the mean urine flow rate. This therapy showed insignificant changes in prostate gland enlargement after treatment.

A clinical study on the role of Devdarvyadi Kashaya and Dashamool-Siddha-Taila Uttara Basti in the management of Mutraghata w.s.r. to BPH.[16] In this study Devdarvyadi Kashaya (Devardaru, Musta, Murva (Marsdenia tenassima), Haritaki and Yashtimadhu (Glycyrrhiza glabra) 40 ml BD orally for 30 days in Apana Kala and Dashamoola siddha Taila (Tila Tail & the drugs of Dashamoola) Uttara Basti was instilled into the bladder with starting dose 30ml per day for 3 days consecutively and later on increased to 50 ml for 04days. Two sittings of seven days each were scheduled with a gap of seven days in between for the management of Mutraghata. For this study 15 patients were registered and after assessment it was observed that the symptoms of Mutraghata were relieved significantly in the range of 67 to 93%. Residual urine volume was significantly reduced by 81%, where as a significant increase of 46% was recorded in the mean Urine flow rate. In some cases mild to moderate regression in prostate gland was also recorded.

Clinical evaluation of Gokshuradi Kalpa and Yoga Basti in the management of Mutraghata (w.s.r. to B.P.H.).This study was designed with aims to evaluate the clinical efficacy of Pathya, Gokshuradi Kalpa and Yoga Basti (Anuvasana Basti of Dashmooladi Tail and Niruha Basti of Dwipanchmooldadi Kwatha) in the management of Mutraghata. [17] Total 28 patients were selected and they were divided into two groups, in group-A 14 patients treated with Gokshuradi Kalpa (Gokshura, Varuna, Pashanbheda (Bergenia lingulata), Shunthi (Zingiber officinale), Mahayavanna Roma Kshara, Sita) 6gm orally for 30 days in Apana Kala. In patients of group-B, 14 treated with Gokshuradi Kalpa and Yoga Basti. The duration of treatment of Yoga Basti was 8 days and two successive sittings with the gap of 7 days were done. After the completion of study period, significant relief was observed in subjective as well as objective parameters. Residual urine volume was reduced up to 79% where as significant increase (56%) was recorded in the mean urine flow rate. In consideration to weight of prostate gland, mild to moderate regression was found in some cases.

A Comparative clinical study on efficacy of Mahayavanala Roma Kshara and Dhanyaka Gokshura Ghrita in the management of Vatashttheela (Benign Prostatic Hyperplasia).[18] Total 24 patients were registered among them 10 patients were drop out. In group A (n=6) were completed the treatment with Mahayavanala (Zea Mays (Indian Corals) Roma Kshara capsule, 500 mg, BD for 45 days. In Group B (n=8) patients were treated with Orally Dhanyaka Gokshur Ghrita (Dhanyaka, Gokshura, Ghrita)) 10gm two times a day for 45 days. Group treated with Dhanyaka Gokshur Ghrita was found more effective in comparison to group treated with Mahayavanala Roma Kshara in relieving prostate symptoms score as per calculation of unpaired t test p=0.05). Residual urine volume was significantly reduced up to 79%, where as a statistically significant increase i.e.56% in mean urine flow rate was recorded. In some cases mild to moderate regression in the
prostate volume was also recorded in both the groups.

Clinical Study on Mutraghata w.s.r. to Benign Prostatic Hyperplasia and its management with Gokshuradi Compound Vatee and Dhanyaka-Gokshura Ghrita. [19] The study was planned to evaluate the clinical efficacy of Gokshuradi compound Vatee orally and Dhanyaka Gokshura Ghrita Matra Basti in 32 diagnosed patients of Mutraghata. All selected cases were randomly divided into three groups. In group-A Gokshuradi compound Vatee (Gokshuradi Guggulu added with Kwait dravyas Punarnava (Boerhavia diffusa) and Devadara) 500 mg was given orally three times a day for 21 days with lukewarm water after 1/2 an hour of taking food. In patients of group-B Dhanyaka Gokshura Ghrita Matra Basti 60 ml once a day for 21 days just after lunch. In Group-C Gokshuradi Compound Vatee and Dhanyaka Gokshura Ghrita Matra Basti was given. Statistically highly significant improvement was observed in average urine flow rate by 39.52 % in Group-A, by 31.65 % in Group-B, by 55.68 % in Group-C. Significant improvement was observed in the size of prostate gland by 20.71 % in Group-A, by 18.08 % in Group-B and by 24.89 % in Group-C. Insignificant change was observed over post voidal residual urine volume in Group-A. In Group B, post voidal residual urine volume reduced up to 23.91 % which was found statistically insignificant where as significant improvement was observed by 25.17 % in Group-C. In overall assessment of therapy, Moderate improvement was seen in 3 patients (30.00 %), 4 patients (40.00 %) and 7 patients (70.00 %) in group A, B, and C respectively. Mild improvement was observed in 7 patients (70.00 %), 6 patients (60.00 %) and 3 patients (30.00 %) in group-A, B, and C respectively. At the end of therapy, none of patient had got complete cure in any of three groups. Overall group-C (54.09 %) has shown better result than group-A (45.67%) and group-B (47.99 %) in all parameters. There was no any untoward effect or adverse drug reaction (ADR) recorded during the entire duration of therapy among all the patients.

A Clinical Study on Kanchanara Guggulu and Matra Basti of Dhanyaka Gokshura Ghrita in the management of Mutraghata w.s.r. to Benign Prostatic Hyperplasia. [20] In this study total 30 patients were selected and divided into three groups. In Group A Kanchanara Guggulu (Kanchanara (Bauhinia variegata Blume.), Triphala contains Haritaki (Terminalia chebula), Bibhitaki (Terminalia bellirica), Amalaki (Emblica officinais), Trikatu contains Pippali (Piper longum), Maricha (Piper nigrum), Shunthi (Zingiber officinale), Varun (Crataeva nurvala), Elea (Eletaria cardamomum), Twaka (Cinnamomum zeylanicum), Tejpatra (Cinnamomum tamal), Guggulu (Comiphera mukul)) was administered in a dose of 500 mg, three times a day, orally with lukewarm water. In Group B Dhanyaka Gokshura Ghrita (Dhanyaka (Coriandrum Sativum), Gokshura (Tribulus terrestris), Ghrita (Butyrum departum)) was administered 60 ml once daily as Matra Basti in Apana Kala. In group-C combined therapy was administered. Total duration of therapy in each group was 21 days and follow up was done for one month. Maximum improvement in sign and symptoms of BPH was seen in 3 patients (33.34 %), 5 patients (55.56 %) and 3 patients (33.34 %) in group A, B, and C respectively. Moderate improvement was seen in 4 patients (44.44 %), 4 patients (44.44 %) and 4 patients (44.44 %) in group A, B, and C respectively. Mild improvement was observed in 1 patients (11.11 %), 0 patients (00.00%) and 2 patients (22.22 %) in group A, B, and C respectively. The scholar was noted that none of patient had got complete cure and 1 patient was seen unchanged (11.11%) result in group A and better result was found in group B in all parameters.

DISCUSSION

The Mutraghata is a broad term and it can be considered as a syndrome, because it covers most of the pathological entity of the urinary system and classified into twelve / thirteen types. Based on the clinical symptomatology, it can be correlated with benign prostatic hyperplasia (BPH).The exact aetiology of BPH is not yet clearly understood. The concept of nodular hyperplasia in pathology of BPH has been established but its exact cause is still not known clearly. In fact, the development of BPH is multi-factorial phenomenon as there is no strong evidence for risk factors like smoking, vasectomy, obesity or high alcohol intake for developing clinical features of BPH. The only true factors related to the development of the disease are age and hormonal status.

Basti is considered as the most appropriate treatment for Vata predominant diseases. Mutraghata is an entity in which
vitation of Vata Dosha takes place. In Basti therapy, Anuvasana Basti is indicated when Vata is vitiated with the involvement of Kapha and Pitta Doshas and the pathology is localized in the Basti pradesha (KUB region). Matra Basti is one kind of Anuvasana Basti in which the dose of Snehadravya is used in less quantity (maximum 60 ml). It is further said that administration of Matra Basti improves the general condition of the patients (Balya), nourishes (Bhrihiniya) him, normalizes the function of Vata and makes natural urges of urination, defecation easy in diseased conditions. So in most of the research studies Anuvasana Basti was selected in one group of patients.

In above research studies reviewed in this article, the drugs used are Mustadi Kalpa in which main ingredient is Musta having Mutrala, Balya, Shothahara, Jvaraghna, Vishagha properties. Devadaryadi Kashaya and Gokshuradi Kalpa are mainly having Deepana, Pachana, Mutrala, Vatanulomana, Shothahara action and it is supplemented by Rasayana, Balya effect which are essential properties in the management of Mutraghata. Dashamoola siddha Tail used for Uttara Basti as the ingredients of Dashamoola are well known for their Shothahara, Vatahara and Mutrala actions and the preparation in Tail also enhance the properties of the drugs as Taila is also known for its Vataharaguna. For the purpose of Yoga Basti, Dashamooladi Anuvasana Basti and Dwipanchmooladi Niruha Basti were used, as the drugs of Dashamoola are well known for their Shothahara, Vatahara and Mutrala properties. In Dhanyaka Gokshura Ghrita Matra Basti Dhaanyak (Coriandrum sativum) having Tridoshaghna, Mutrala and Snigdha actions while Gokshura (Tribulus terrestris) contains Anulomana, Basti Shodhana, Vedana Sthaapana and Mutrala properties. In the addition to this, because of Ghrita is selected which is the best Sneh and having "Sanskaarasya- Anuvartana" property and also enhances action of the drugs processed with it. In Gokshuradi compound Vatee two more drugs were added i.e. Punarnavas (Boerhavia diffusa) and Devadaaru (Cedrus deodara) in the classical formulation of Gokshuradi Guggulu as Kwatha Dravya due to their potent Vata-shamaka, Shothahara, Lekhana, Basti Shodhana and Mutrala action, considering for better result in Mutraghata. The entire ingredients in this formulation have Ushna Veerya, Kashaya, Madhura and Tikta Rasa, Raksha, Ushna and Teeksha Guna and Katu Vipaka. In the classic Kanchanar Guggulu was mentioned in management of Gandamala, Apachi, Arbuda, Granthi etc. It is made up of Kanchanar twak, Triphala, Trikatu, Varun, Ela, Twak, Patra. Due to its Vata-Kaphahara, Shothahara, Lekhana and Mutrala effect and the selected drugs are shown better result in Mutraghata.

CONCLUSION

The review of research studies conducted on Mutraghata showed that the Mutraghata (Benign Prostatic Hyperplasia) can be best treated with Ayurvedic formulations as mentioned. The best treatment in the geriatric age is Basti chikitsa, so Uttara Basti, Matra Basti and Yoga Basti used in these research studies shown the better improvement in the BPH. In most of the studies better improvements was noted in the symptoms like dysuria, hesitancy, nocturia and reduction of residual urine volume. Mild to moderate regression in the prostate volume was also recorded and noticeable point is the quality of life was improved in these studies. No any adverse effect of any drug was noted in these study means treatment mentioned in review studies was well tolerable.

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