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Research Article

VARUNAA SHIGRU GUGGULU AND BALA TAILA MATRA BASTI IN THE MANAGEMENT OF MOOTRAGHATA (BENIGN PROSTATIC HYPERPLASIA) - A PILOT STUDY

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Abstract

Mootraghata (Benign Prostatic Hyperplesia i.e. BPH) is a senile disorder affects above 40 years of age, having obstructive and irritative symptoms like retention, incomplete voiding, dribbling, hesitancy, incontinence of urine, increased frequency, weak stream etc. In modern science conservative and surgical both interventions are not free from side effects. So in this age group, there is a need for safer alternative method of management. In Ayurveda Sushruta mentioned 12 types of Mootraghata along with conservative measures in the form of Shamana (oral medication) and Shodhana (Panchakarma i.e. Basti). The study was open prospective observational in which 10 patients having signs and symptoms of Mootraghata / BPH were selected from OPD and IPD of Shalya Tantra of research hospital. In this regard, herbal drug Varunaa Shigru Guggulu [500 mg three times orally), and Bala Taila (Atibala - *Abutilon indicum*)] Matra Basti (60 ml once daily, through rectum route) tried in this study. The treatment was given for 30 days and assessed as per gradation adopted. Finally study has concluded that Varunaa Shigru Guggulu & Bala Taila matra basti is effective in symptomatic relief in Mootraghata.

Key Words: Benign Prostatic Hyperplasia; Varunaa Shigru Guggulu; Matra basti; Mootraghata,

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INTRODUCTION

In Ayurvedic classics Mootraghata gives the symptoms of low urinary output either by retention, absolute or relative anuria or oliguria. Mootraghata is predominantly due to the Vata Dosha in general and apana vayu in perticular.[1] The Apana Vata is responsible to expel the urine output timely & uniformly. If Vata gets vitiated, it causes various diseases related to Basti & produces Mootraroga such as Prameha (Diabetes Mellitus), Ashmari (Urinary Stone), Mootraghata (12 types of retention of urine) Mutrakruchcha (8 types of dysuria) etc. In Ayurveda Mootraghata may have some similarity with BPH on the basis of symptoms like Achala Unnata Granthi (singly movable & elevated tumor), Vinmutranilasanga (retention of urine, feces & flatus), Bastiadhmana (distension of the urinary bladder), Vedanachaparabastou (excruciating pain in the bladder).[2] The overall incidence rate of BPH is 15 per 1000 men per year. The incidence of BPH is at least 50 % for all men at the age of 40 years and above.[3] In India BPH is a common pathological condition with an incidence of 92.97% (n=185) and 93.3% (n=200). BPH is the most common benign neoplasm of senile men caused by excessive growth of prostatic tissue. In modern medicine the management of BPH is either by conservative treatment using drugs (e.g. hormonal therapy, chemotherapy etc.) or through a surgical approach (e.g. open prostatectomy, transurethral resection of prostate-TURP, cryotherapy, etc.).[4] In old age the surgery is associated with many complications like postoperative morbidity, impotence, retrograde ejaculation.[5] In case of hormonal therapy there are complications like loss of libido, impotence, gynaecomastia and also very expensive. Basti (Matra Basti) is authentic treatment for vitiated Vayu where no any strict restrictions are required.[6] So, for Vatadosha Basti in general and Matra Basti in particular may be helpful in reducing the size of the prostate and enhancing the tone of urinary bladder. Considering this classical concept in this study, Varuan Shigru Guggulu orally and Bala Taila Matra Basti was tried in 10 patients as pilot study which showed good result in symptomatic management of BPH.

MATERIAL AND METHODS

10 patients having signs and symptoms of mootraghata / BPH were selected from OPD and IPD of Shalya Tantra Department, IPGT & RA, Jamnagar.

Inclusion Criteria

Male patients of age above 40 years having signs and symptoms of Mootraghata (BPH) were included in this study.

Exclusion Criteria

Patients below 40 years of age were excluded. Patients suffering from malignancy of prostate. Systemic diseases like Uncontrolled Hypertension (HT) & Diabetes Mellitus (DM), Tuberculosis (TB), Paralysis, and Parkinsonism etc. were excluded from study.

Interventions - Orally

Varunaa Shigru Guggulu (VSG) was administered in dose of 500 mg, three times a day (TID) with luke warm water, half an hour before food.

Matra basti

Bala Taila [oil prepared with Atibala (*Abutilon indicum)* and Sesame oil] was administered in 60 ml once daily as Matra Basti, just before breakfast.

Procedure of Matra Basti

In most of the patients Matra basti was given after getting admitted in Male Shalya Ward (MSW). The procedure was performed as per Trividha karma (SOP) mentioned in the classic.

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Poorva Karma

Patients advised to pass their natural urges prior to Matra basti. All patients advised nil orally before the administration of Matra Basti. Drugs required for Matra basti like Bala Taila were made warm before administration. Instruments like rubber catheter, 20cc syringe, gloves were kept ready.

Pradhana Karma

Patient was asked to lie in left lateral position on table. The Bala taila is cooled to room temperature. Slowly and steadily 60ml Bala taila was administered through rectal route with plastic syringe and rubber catheter lubricated with taila. At the time of insertion of the taila patient was asked to inhale and exhale deeply and keep himself as relaxed as possible.

Pashchata Karma

After Matra basti patients was advised to lie down in left lateral position for 10 minutes. Patient was tapped on back and legs were kept in bending position. Dinner was allowed only after Matra basti. Patient shifted to ward and hot water bag was provided for local Swedana (fomentation) at lower abdomen. All the patients asked to note the time of pratyagamana kala (time of retention) of basti.

Ethical clearance

Before starting the study the approval from Institutional Ethics Committee (IEC) has been taken vide letter No.: PGT/7-A/Ethics/2014-15/ 2652, dated 18/12/2014.

CTRI Registration

The study has been registered in CTRI retrospectively vide registration No.: CTRI/2015/10/006279.

Criteria for assessment

Subjective Criteria

The symptoms of BPH were assessed by adopting International Prostate Symptom Score (IPSS).[7] The symptoms assessed were incomplete emptying, frequency, intermittency, urgency, weak stream, straining, and nocturia. On the basis of these score, if the score is 0-7 then it was mildly symptomatic, if the score is 8-19 then it was moderately symptomatic and if the score is 20-35 then it was severely symptomatic. (Table 1) Objective criteria of assessment and overall assessment were shown in Table 2 & Table 3.

OBSERVATIONS AND RESULTS

Most of the patients in this study (60.00%) were from the age-group of 65-80 years as BPH is a disease related to aging. 60.00% of patient had chronicity of BPH above 1 year which suggested that slow progressive nature of BPH. Almost all i.e. 100.00 % of patients were belonging to vata-kaphaja prakriti which is important risk factor for susceptibility or development of mootraghata. (Table 4)

In this study, the symptoms of BPH like nocturia, increased frequency, dysuria, incomplete voiding and weak stream was observed more than 80% of patients as these are cardinal symptoms of BPH. (Table 5)

The per rectal digital examination findings of BPH like smooth surface, upper border approachable, median grove palpable, soft consistency and free rectal mucosa all these signs were observed in most of the patients. These findings are suggestive that the selected patients had the benign enlargement of prostate and there was no possibility of malignant. (Table 6)

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Table 1: International Prostate Symptoms Score

IPSS	Not at all	Less than 1 time in	Less than half the time	About half the time	More than half the time	Almost always	BT	AT
Incomplete emptying: Over the past month, how often have you had a sensation of not emptying your bladder completely after you finish urinating?	0	1	2	3	4	5		
Frequency:Over the past month, how often have you had to urinate again less than two hours after you finished urinating?	0	1	2	3	4	5		
Intermittency:Over the past month, how often have you found you stopped and started again several times when you urinated?	0	1	2	3	4	5		
Urgency:Over the last month, how difficult have you found it to postpone urination?	0	1	2	3	4	5		
Weak stream:Over the past month, how often have you had a weak urinary stream?	0	1	2	3	4	5		
Straining:Over the past month, how often have you had to push or strain to begin urination?	0	1	2	3	4	5		
Nocturia: Over the past month, many times did you most typically get up to urinate from the time you went to bed until the time you got up in the morning?	0	1	2	3	4	5		
Total IPSS score								

Quality of life due to urinary symptoms	Delighted	Pleased	Mostly satisfied	Mixed – about equally satisfied and dissatisfied	Mostly dissatisfied	Unhappy	Terrible	BT	AT
If you were to spend the rest of your life with your urinary condition the way it is now, how would you feel about that?	0	1	2	3	4	5	6		

Total Score: 0-7 - Mildly Symptomatic; 8-19 - Moderately Symptomatic; 20-35 - Severely Symptomatic

Table 2: Objective Criteria Score Pattern

Prostate size (volume)	Score
Up to Normal (14-26 cc)	0
> 26 to 36 cc	1
> 36 to 46 cc	2
> 46 to 56 cc	3
> 56 cc	4
Urine Flow Rate	
Normal or More (≥15 ml/Sec)	0
11 to < 15 ml/Sec	1
07 to <11 ml/Sec	2
03 to <07 ml/Sec	3
00 to < 03 ml/Sec	4
Residual Urine Volume	
Nil (up to 30 cc)	0
> 30 to 60 cc	1
>60 to 90 cc	2
>90 to 120 cc	3
> 120 cc	4

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Table 3: Criteria for Assessments of overall Results

Result	Description
Complete Cure	100% Relief in subjective, objective findings and IPSS parameters
Maximum Improvement	76 to <100% Relief in subjective, objective findings and IPSS parameters
Moderate Improvement	51 to 75% Relief in subjective, objective findings and IPSS parameters
Mild Improvement	26 to 50% Relief in subjective, objective findings and IPSS parameters
Unchanged	Up to 25 % Relief in subjective, objective findings and IPSS parameters

Table 4: Observation on demographic data (*n*=10)

Observation	No. of Patients	%
Age (65to 80)	6	60.00 %
Religion (Hindu)	10	100.00 %
Socio economic status (Lower Middle Class)	6	60.00 %
Occupation (Retired)	7	70.00 %
Diet habit (Samshana)	6	60.00 %
Bowel habit	7	70.00 %
Prakriti (Vata-kapha)	10	100.00 %
Chronicicity (Above 1 year)	6	60.00 %

Table 5: Observation on Symptoms (*n*=10)

Symptoms	No. of Patients	%
Nocturia	10	100.00 %
Increased Frequency	8	80.00 %
Dribbling	7	70.00 %
Haematuria	0	00.00 %
Burning Micturition	5	50.00 %
Dysuria	8	80.00 %
Incomplete Voiding	9	90.00 %
Weak Stream	9	90.00 %
Urgency	7	70.00 %

Table 6: Observation on Local Findings (*n*=10)

Observations	No. of Patients	%
Enlargement of Lobes (Bilateral)	8	80.00 %
Shape (Round)	7	70.00 %
Surface (Smooth)	10	100.00 %
Upper Border of gland (Reached)	5	50.00 %
Median groove (Palpable)	6	60.00 %
Mobility (Fixed)	10	100.00 %
Rectal Mucosa (Free)	10	100.00 %
Consistency (Soft)	6	60.00 %
Tenderness (Absent)	10	100.00 %
Size of Prostate (Mild)	9	90.00 %

In this study in laboratory investigation significant result (< 0.05) was found in Serum Prostate specific Antigen (PSA) and Serum Testosterone, which shows this drug is very effective in BPH. (Table 7)

In this study highly significant result (<0.001) was observed in International Prostate Symptoms Score (IPSS). (Table 8)

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Table 7: Effect of therapy on Laboratory Investigations (*n*=10)

Laboratory Investigations	Mean Score			%				
	BT	AT	n	Relief	SD	SE	t	p
Serum PSA	1.30	0.73	10	43.74	0.944	0.299	1.902	< 0.05
Serum Testosterone	495.40	576.23	10	16.32	131.554	41.601	1.943	< 0.05
FBS	87.30	87.90	10	-0.69	17.834	5.640	-0.106	> 0.05
Serum Creatinine	1.11	1.05	10	5.41	0.217	0.069	0.874	> 0.05
SerumAlkaline Phosphate	51	54.60	10	-7.06	13.517	4.274	-0.842	> 0.05
Blood Urea	25.70	27.90	10	-8.56	8.483	2.682	-0.820	> 0.05

Table 8: Effect of therapy on IPSS (*n*=10)

International Prostate Symptoms Score (AUA)	Mean Score			%				
	BT	AT	n	Relief	SD	SE	T	p
Incomplete emptying	4.8	0.8	10	83.33 %	1.414	0.447	8.944	< 0.001
Frequency	4.0	0.7	10	82.05 %	2.057	0.650	5.071	< 0.001
Intermittency	4.0	0.9	10	77.05 %	2.330	0.737	4.205	< 0.001
Urgency	2.5	0.5	10	80.00 %	2.309	0.730	2.738	< 0.01
Weak stream	4.5	2.0	10	55.55 %	2.368	0.749	3.337	< 0.001
Straining	4.0	1.2	10	70.00 %	2.097	0.663	4.221	< 0.001
Nocturia	3.6	1.7	10	52.77 %	1.663	0.525	3.612	< 0.001
Quality of life	5.0	1.2	10	76.00 %	1.229	0.388	9.775	< 0.001

Table 9: Effect of therapy on Objective parameters (*n*=10)

Objective Parameters	Mean Score			%				
	BT	AT	n	Relief	SD	SE	T	p
Prostate Size & Volume	40.50	39.40	10	2.72	1.370	0.433	2.538	< 0.01
Post-voidal Residual Urine Volume	8.00	4.00	10	50.00	9.661	3.055	1.309	> 0.05
Average Urine Flow Rate	2.68	4.43	10	65.30	0.763	0.241	7.248	< 0.001

Table 10: Overall Effect of Therapy (*n*=10)

Overall Effect	No. of Patients	%
Complete Cured	0	00.00 %
Maximum Improvement	2	20.00 %
Moderate Improvement	3	30.00 %
Mild Improvement	5	50.00 %
Unchanged	0	00.00 %

In Objective Parameters highly significant result (<0.001) was observed in Average Urine Flow Rate (AUFR) and significant result (< 0.05) was found in reduction of Prostate Size. Also in Post voidal residual urine (PVRU), 50.00 % patients showed improvement. (Table 9) The overall result showed that 20% patients were shown maximum improvement, 30% cases showed moderate improvement and 50 % patients showed mild improvement in signs and symptoms.

The complete cure was not observed in any patients as there is a structural change in prostate gland in old age. So it can be said that study showed positive effect in the management of BPH. (Table 10) Varuna Shigru Guggulu and Bala Taila Matra Basti give symptomatic relief in irritative symptoms like urgency, frequency, nocturia as well as in obstructive symptoms like straining, weak stream and incomplete emptying of bladder.

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DISCUSSION

The concept of nodular hyperplasia in pathology of BPH has been established but its exact cause is still unknown.[8] 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.[9] The mootraghata is a broad term and it can be considered as a syndrome, because it covers most of the pathological entity of the urinary system into twelve types.[10] These types may be co-related with three major groups of modern parlance i.e. Neurogenic Bladder Disturbances (NBD), Bladder Outflow Obstruction (BOO) & Lower Urinary Tract Symptoms (LUTS).

The trial formulation (Varunaa Shigru Guggulu) contains Varuna (*Crativa nurvala*), Shigru (*Moringa oliefera*) and Guggulu (*Commiphora mukul*) which is prescribed in treatment of Mutraghata, Mutrakrichhra, Vataroga, Prameha and Vidridhi. The ingredients in this formulation have Ushna Virya, Kashaya, Madhura & Tikta Rasa, Ruksha, Ushna & Teekshna Guna, and Katu Vipaka over all. With these properties, Varuna Shigru Guggulu exerted pharmacological actions like Deepana, Aama Pachana, Mutrala Lekhana, Shothahara, Vilayana and Srotoshodhana etc. Further, due to these actions, Sanga is removed in Mutravaha Srotasa particularly at Basti Shira leads to reduction in size of the enlarged prostate and simultaneously correction of Agni Dusthti take place. As Mutravaha Srotasa becomes free from Avarodha (in the form of Aghata) or Avarana caused by vitiated Kapha, the vitiated Vata comes to normal state. Thus, it normalized the physiology of Apana Vayu, resulted proper evacuation of Mutra in the form of increased urine flow rate and decreased post-voidal residual urine volume. Because of improvement in Jatharagni due to Deepana-Pachana effect of drugs, Dhatvaagni also had come down in normal state. The function of Basti Snayu might have been improved due to correction of Mamsadhatvaagni. Finally, Mamsa and Medo Vriddhi had been returned to normal state due to normalization of Dhatvagni, and ultimately lead to reduction in enlarged prostate size because of Aama Pachana, Lekhana and Sophahara action of ingredients.

The pharmacological studies on Varunaa and Shigru are shown potent diuretic effect and anti-inflammatory, antimicrobial, CNS stimulant, smooth muscle relaxant, 5-α reductase inhibitor,[11] juvenile hormonal activity. The effects of Shigru on serum concentration of ACTH, TSH, LH & FSH, adrenal, testosterone and estradiol hormones as well as its diuretic effect are well studied and is shown significant action on increasing the LH and testosterone level on administration of it. Shigru pharmaco-logically acts either by direct effect on gonads or through certain hormone present in body. Shigru has 59 active principles in which three i.e. oleic acid, palmic acid, stearic acid acts as 5- α reductase inhibitor. As mentioned in modern review that 5- α reductase is responsible for formation of DHT from testosterone and responsible for BPH with aging, so Shigru with the help of these three alkaloids inhibit the 5- α reductase as well as prostate size. Shigru also has β-sitasterol which is antigonodotropic.[12] It causes regression of enlarged prostate. Shigru possess anti-proliferative and antiestrogenic properties. It also shows an important role of natural antioxidant and as adjuvant to enhance the anticancer potential of AP9-cd and more likely other anti neoplastic therapeutics. Varuna causes apoptosis in cancer cells via Betulinic acid[13] induced cell death in human prostate cancer cells. The isolated compounds from Crataeva nurvala species of Varuna has been tested against human prostate cancer,[14] it has shown moderate anti proliferative effects on human prostate cancer cell as well as inhibits the expression of androgen receptors. Varuna shows diuretic, estrogenic,

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smooth muscle relaxant and juvenile hormone mimicking activities and study reveals that its ability to inhibit the enzyme xanthine oxidase (XO) and to exert apoptotic effect on cancer cells.[15] Guggulu causes apoptosis in cancer cells via guggulsterone induced cell death in human prostate cancer cells. The isolated compounds from c species of guggulu has been tested against human prostate cancer; it has shown moderate anti proliferative effects on human prostate cancer cell as well as inhibits the expression of androgen receptors.[16]

In Bala Taila only two drugs Atibala (*Abutilon indicum*) and Tila Taila (*Sesamum indicum* Linn.) are used. In the management of Mootraghata, it is clearly mentioned to use Taila as Sneha Dravya in the forms of Pana, Abhyanga as well as Basti.[17] Beta Sitosterol has been identified as the active ingredient in Atibala (*Abutilon indicum*).[18] Scientifically proved that beta sitosterol has anti-inflammatory effects (through interference with prostaglandin metabolism) and anti-androgenic or anti-estrogenic effect.[19] The active chemical component beta sitosterol in any herbs is proved very effective in BPH. Tila taila (*Sesamum indicum* Linn.) has linoleic acid and oleic acid as a chemical component.[20] They are inhibitors of both 5-α reductase and α blockers activity.[21] The inhibition of 5-α reductase controls the conversion of testosterone to Dihydrotestosterone (DHT). So controlling in DHT ultimately controls the further growth of prostate gland and relief in the symptoms.

CONCLUSION

Finally study was concluded that Varuna Shigru Guggulu and Bala Taila Matra Basti are effective and easily palatable in BPH patients. Use of this therapy in early stage of BPH can prevent the further progressive pathology of disease. There was no any adverse effect throughout the study.

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