



Case Study

THE EFFECT OF *KARKATIBEEJADI CHURNA* BY INTERNAL ADMINISTRATION IN *MUTRAGHATA* WITH SPECIAL REFERENCE TO BENIGN PROSTATIC HYPERPLASIA

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ABSTRACT

Benign Prostatic Hyperplasia is a non-malignant enlargement of the prostate gland caused by excessive growth of prostatic tissue. The main symptoms of BPH include hesitancy, frequency, urgency, weak stream urination, straining and nocturia. These together termed as LUTS. We cannot see a single disease in Ayurveda which shows all the features of benign prostatic hyperplasia. *MutrAGRAnthi* is one among the 12 types of *MutrAGhAtAs* which can be compared with benign prostatic hyperplasia due to its similarities in morphological, anatomical, and clinical features. Lower urinary symptoms in patients are very troublesome which affects their daily routine and sleep pattern and a negative impact on their quality of life. Embarrassment and the treatment cost prevent them to take timely treatment. In modern system of medicines, the treatment of BPH is done by conservative and surgical therapies. These methods have significant complications and are too expensive. *Karkatibeejadi churna* is mentioned in *Bhaishajyaratnavali* in *Mutraghata prakarana*. The ingredients of this *Choorna* are easily available and easy to prepare and consume. This case study was done in a participant of age 67 years with symptoms of benign prostatic hyperplasia which was confirmed by USG in search of an effective, cost effective conservative treatment. The *Choorna* was given for 60 days and assessments were done on 0th, 16th, 31st, 46th and 61st days and the result showed significant reduction in symptoms, prostate volume and post void residual urine of benign prostatic hyperplasia.

INTRODUCTION

Benign Prostatic Hyperplasia (BPH) is characterized by an increase in epithelial and stromal cell numbers (hyperplasia) in the periurethral area of the prostate. The increase in prostate cell number could reflect proliferation of epithelial and stromal cells, impairment of programmed cell death or a combination of both.^[1] This zone is the site of continuous growth throughout life.^[2]

The prevalence of histologic BPH rises from approximately 20% in men aged 41-50, 50% in men aged 51-60 and to more than 90% in men older than 80 years.^[3]

Different definitions can be seen in the literature when describing BPH. These include Bladder

Outlet Obstruction (BOO), is the generic term used for obstruction during voiding which is characterised by increased detrusor pressure, Lower Urinary Tract Symptoms (LUTS), term which indicate the disease of lower urinary tract, Benign Prostatic Enlargement (BPE) Benign Prostatic Enlargement (BPE) describes the increased size of the gland (usually secondary to BPH). LUTS include storage symptoms such as day time urinary frequency, nocturia, urgency and voiding symptoms include hesitancy intermittency weak stream, straining etc^[4].

The development of benign prostatic hyperplasia is age related. As age advances the testosterone is converted to more potent form DHT by 5 alpha reductase. It then binds to receptors inside prostate cells to increase secretions and possibly cell division resulting in gland enlargement^[5]. This leads to compression of the urethra and bladder outflow obstruction (BOO) is manifested. This leads to the lower urinary tract symptoms (LUTS), urinary

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retention or infections due to incomplete bladder emptying.^[6]

The clinical assessment of benign prostatic hyperplasia is done by scoring of symptoms like weak stream, hesitancy, urinary frequency, urgency, nocturia, incomplete emptying, intermittency, using IPSS. Diagnosis is based mainly on digital rectal examination and symptoms. Other investigations like cystoscopy, transrectal ultrasonography, urodynamics, or other imaging studies can also be used to confirm the diagnosis.

Treatment options for BPH include watchful waiting, medical and surgical interventions. Risk factors for BPH can be divided into non-modifiable and modifiable entities. Age, dietary factors, genetics, hormonal alterations, metabolic derangements are shown to influence the development of BPH.

Classically the *Mutra rogas* can be categorized into two such as, *Mutra Atipravrittija* and *Mutra Apravrittija Rogas*. *Prameha* comes under the first group where as *Asmari*, *Mutrakricchra* and *Mutraghata* comes under the second group. The symptom complex of both the *Mutrakricchra* and *Mutraghata* found to be overlapping each other, but *Acharya Dalhana*, *Chakrapani*, and *Vijayarakhita* have demarcated the difference between them. This difference is on the intensity of “*Vibhanda*” (obstruction) which is more seen in *Mutraghata*. Mainly 13 *Mutraghata rogas* are mentioned in Ayurveda. There is no single disease which shows all the features of benign prostatic hyperplasia. *MutrAGRAnthi* explained under *Mutraghata* is seems to be most similar one to compare with benign prostatic hyperplasia as it is explained as the formation of a round immovable hard and small tumor developing inside the mouth of the urinary bladder producing pain resembling that of urinary stone.^[7,8]

In Ayurveda, the management of benign prostatic hyperplasia is done by adopting the principles of *Mutrakrcchra* and *Mutraghata Chikitsa*, *Mutravegadharanajanya Vikara Chikitsa* and *Grandhi*

chikitsa which include *Avapeedaka Snehapana*, *Vasthi*, *Kshara prayoga* etc.^[9]

The present work has been taken to assess the effect of *Karkatibeejadi choorna* by internal administration which is mentioned in *Bhaishajya ratnavali*^[10] in benign prostatic hyperplasia and also in search of a cost effective conservative treatment.

Patient Information

A 67 year old male patient with no other co-morbidities visited OPD of Salyatantra, Govt. Ayurveda College, Thiruvananthapuram, with complaints of increased frequency of micturition especially during night, difficulty in starting urination, dribbling of urine especially after urination and strong and sudden desire to urinate since 2 years. Preliminary clinical examination including per rectal examination done and an enlarged prostate gland found out. Further on USG abdomen, revealed prostatomegaly.

Investigations

1. USG abdomen
2. PSA
3. Urine R/E

The USG reports suggested grade 2 prostatomegaly with prostate volume of 59cc and post void residual urine 80ml. Urine routine and PSA value within normal limits.

Intervention

6 gm of *Karkatibeejadi churna* along with *Ushna jala* as *Anupana* is given internally twice a day before food for a period of 60 days and the effect is assessed.

Name and details of the drug - *Karkatibeejadi Choorna*

Treatment Period

Administration of drug started after thorough examinations and investigations. The total treatment period was 60 days. During the treatment period the assessment of participant was done on 0th, 16th, 31th, 46th and 61st days. USG was taken before and on 61st day of administration of the medicine to assess post void residual urine volume and size of prostate gland.

Drug	Rasa	Guna	Veerya	Vipaka	Karma
<i>Karkati/Beeja</i>	<i>Madhura</i>	<i>Rooksha</i>	<i>Seetha</i>	<i>Madhura</i>	<i>Muthralam, Muthrabasthivisodhanam Beeja- Muthralam, Muthrakrcchrajit</i> Active principles - cucurbitacin and ligandins- anti-inflammatory, anti-proliferative, anti-cancerous.
<i>Hareethaki</i>	<i>Kashaya, Katu Thiktha, Amla, Madhura</i>	<i>Rooksha, Laghu</i>	<i>Ushna</i>	<i>Madhura</i>	<i>Anulomana, Deepanabrmhana, Mutraghata - Mutrakrcchrahara</i>
<i>Vibheethaki</i>	<i>Kashaya</i>	<i>Rooksha, Laghu</i>	<i>Ushna</i>	<i>Madhura</i>	<i>Bhedana</i>
<i>Amalaki</i>	<i>Amla, Kashaya, Madhura, Thiktha, Katu</i>	<i>Rooksha, Laghu</i>	<i>Seetha</i>	<i>Madhura</i>	<i>Rakthapittahara, Pramehaghna, Vrshya, Rasayana Sara</i>

Saindhava	Madhura	Snigdha, Laghu	Seetha	Madhura	Agnideepana, Kaphavilayanakara, Kahachedaka, Vibandhagna
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Assessment Criteria

Assessment was done using International Prostate Symptom Score and by USG

International prostate symptom score

Incomplete Emptying

- Not at all - 0
- Less than 1 in 5 times - 1
- Less than half the time - 2
- About half the time - 3
- More than half the time - 4
- Almost always - 5

Frequency

- Not at all - 0
- Less than 1 in 5 times - 1
- Less than half the time - 2
- About half the time - 3
- More than half the time - 4
- Almost always - 5

Intermittency

- Not at all - 0
- Less than 1 in 5 times - 1
- Less than half the time - 2
- About half the time - 3
- More than half the time - 4
- Almost always - 5

Urgency

- Not at all - 0
- Less than 1 in 5 times - 1
- Less than half the time - 2
- About half the time - 3
- More than half the time - 4
- Almost always - 5

Weak stream

- Not at all - 0
- Less than 1 in 5 times - 1
- Less than half the time - 2
- About half the time - 3
- More than half the time - 4
- Almost always - 5

Straining

- Not at all - 0
- Less than 1 in 5 times - 1
- Less than half the time - 2
- About half the time - 3
- More than half the time - 4
- Almost always - 5

Nocturia

- None - 0
- 1 time - 1
- Two times - 2
- Three times - 3

- Four times - 4
- Five or more - 5

Total Score:

- 1-7 - Mild symptomatic/asymptomatic
- 8-19 - Moderately symptomatic
- 20-35 - More severely symptomatic

Objective criteria by USG

1. Size of prostate gland – Before and after treatment
2. Post void residual urine volume – Before and after treatment

OBSERVATION AND RESULTS

Subjective Criteria

Criteria	Before treatment	After treatment
Incomplete emptying	4	2
Frequency	5	2
Urgency	5	3
Intermittency	3	1
Weak stream	3	1
Straining	2	0
Nocturia	3	2
Total score	25	11

Objective Criteria -USG Abdomen

	Before treatment	After treatment
Volume of prostate gland	59cc	56cc
Post void residual urine	80ml	45 ml

DISCUSSION

There were various studies including case studies regarding BPH in terms of *Mutraghata*. A single case study related to effect of *Ervarubeejakalka* in BPH has been taken place and is published in International Journal of Pharmaceutical and Phytopharmacological Research in the year 2020. The study showed good results. In the light of this study another drug which is easy to prepare and consume is taken for this study.

MutrAGRAnthi explained under 12 *MutrAGRAtas* can be correlated with benign prostatic hyperplasia due to its similarities in signs and symptoms. *Karkatibeejadi churna* is mentioned under *MutrAGRAta chikitsa* in *Bhaishajyaratnavali*. The ingredients of *Choorna* are *Karkati beeja*, *Thriphala* and *Saindhava*^[10].

The probable Mode of Action of the Drug be

- *Karkati beeja* contains active principles like cucurbitacin and ligandins which are anti-inflammatory, anti-proliferative and anti-cancerous in action as,

- Cucurbitacin B which is a major active compound found in cucurbitaceae species has got anti-cancerous effects primarily by Apoptosis induction.
- The phyto estrogenic effect of cucurbitacin helps to reduce the 5 alpha reductase enzyme estrogen and prolactin and maintains the testosterone which are important in the pathophysiology of BPH.
- Cucurbitacin and ligandins scavenge free radicals and thus preventing pro inflammation.
- *Saindhava lavana* is *Vrshya* which has action on reproductive hormones.
- It is *Vibandaghna* too, hence can be used in obstructive uropathies
- *Thriphala* is good in regulating the hormonal balance in the body.
- The high levels of anti oxidants like gallic acid and polyphenols has proved anti cancerous and anti inflammatory properties.
- *Anupana* used here is *Ushnajala* which is *Basthisodhanam* in action.
- The *Oushadhakala* is before food since *Apana Vata Vaigunya* is dominant in this condition.
- Thus *Karkatibeejadi churna* has significant role in the management of benign prostatic hyperplasia.

CONCLUSION

Benign Prostatic Hyperplasia is a condition which left untreated may lead to acute urinary retention, urinary tract infections, renal failure in due course of time. In modern system of medicines, Benign Prostatic Hyperplasia is managed with both conservative and surgical treatment modalities, but they are too expensive. Modern medicaments have many side effects like dizziness retrograde ejaculation etc. The surgical correction also has potential complications including stricture of urethra, incontinence of urine.

In Ayurveda, the management of Benign Prostatic Hyperplasia is done by adopting the principles of *Mutraghata*. *Karkatibeejadi choorna* has constituents which are easily available. It is easy to prepare and administer. By the study it is evident that

Karkatibeejadi churna is effective in managing Benign prostatic hyperplasia.

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