



Case Study

EFFECT OF PARIBHADRA PANEYAKSHARA IN MUTRAGHATA CAUSED BY BENIGN PROSTATIC HYPERPLASIA- A CASE REPORT

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ABSTRACT

Benign Prostatic Hyperplasia is a troublesome disease that bothers the population of ageing men by decreasing their quality of life. It is an abnormal growth involving the submucosal glands of prostate. The disease interferes with the normal daily activities and sleep pattern and hence is a matter of concern to the medical field. The symptoms of Benign Prostatic Hyperplasia closely coincide with the symptoms of *Mutraghata* (urinary obstruction) explained in Ayurveda. When taking the obstructive pathology into consideration, *Paneyyakshara Prayoga* (alkali for internal administration) is classically mentioned as a treatment option. This work is a case study on the effect of *Paneyyakshara* prepared out of *Paribhadra* (*Erythrina indica*) which is a drug possessing *Vatakaphahara* (alleviate *Vata* and *Kapha Dosha*) and *Shophahara Karma* (pacify inflammatory swellings) in *Mutraghata* caused by Benign Prostatic Hyperplasia. A 66-year-old male who presented with the signs and symptoms of Benign Prostatic Hyperplasia was administered with 500 mg of *Paribhadra Paneyyakshara* with 1 gram of *Guda* (jaggery), morning and evening, half an hour before food for a period of 45 days. Assessment was done before and after treatment based on the IPSS (International Prostate Symptom Score) of the American Urological Association and the Ultrasound abdomen findings. The post- interventional assessment showed a lowered IPS Score and reduced USG parameters indicating the efficacy of *Paribhadra Paneyyakshara* in reducing *Mutraghata* caused by Benign Prostatic Hyperplasia.

INTRODUCTION

Prostate is an accessory gland of male reproductive system. Benign Prostatic Hyperplasia (BPH) refers to benign enlargement of the prostate gland (median lobe, lateral lobes or both) and has an incidence of more than 10 million cases per year in India, with 50% prevalence in 6th decade of life, usually occurring after 50 years, mostly between 60 and 70 years [1]. Even though the etiology is not clear, one of the theories say hyperplasia due to disturbance of the ratio and quantity of circulating androgens and oestrogens may be a cause [2].

Median lobe enlarges into the bladder and lateral lobes narrow the urethra causing obstruction [2]. Increased frequency of micturition, urgency, hesitancy, nocturia, overflow, terminal dribbling, difficulty in micturition with weak stream, dribbling and retention of urine are the main features of Benign Prostatic Hyperplasia [2] which coincide with the symptoms of *Mutraghata*. *Vatashteela* (a type of *Mutraghata*) is closely similar to BPH with respect to the lower urinary tract symptoms and bladder outlet obstruction [3].

Paneyyakshara Prayoga is told as one of the treatment modalities for *Mutraghata* by *Acharya Sushruta* in 58th chapter of *Sushruta Samhita Uttaratantra* (*Mutraghata Pratishedha*) [4]. *Kshara* (alkali) preparations of *Paribhadra*, *Yava* (*Hordeum vulgare*), *Tila* (*Sesamum indicum*) and *Patala* (*Stereospermum suaveolens*) are advised to be used separately mixed with *Guda* [4]. *Kshara* basically does *Dushtatwakamsadi Chaalana* (eliminates abnormal dermal and muscular growths) by its *Chedana*

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(property of excision), *Bhedana* (property of incision) and *Lekhana* (property of scraping) *Karmas* [5]. When *Kshara* is administered orally, a patient suffering from BPH is expected to get relieved of symptoms pertaining to obstructed urine pathway as reduction in the size of the prostate gland may occur which primarily is the obstructive pathology. According to the Ayurvedic Pharmacopoeia of India, the stem bark of *Paribhadra* (*Erythrina indica*. Lam.) possess *Vatakaphahara Karma* that implies to be effective in tackling a *Granthi* (growth) that causes urinary obstruction [6]. *Guda* is also a *Kaphavatahara Dravya* which naturally has *Kshara Guna* [7].

This particular disease basically hampers the quality of life, as well as, lower urinary tract symptoms are a frequent cause of annoyance which has tremendous socio-economic impact in ageing men [8]. The intervention used here being alkaline in nature, it could alter the acidic pH environment that favours the development of lower urinary tract infection and development of calculi which is mostly associated with BPH. With a single treatment modality, various aspects related to the condition may be handled or prevented, thereby providing a better quality of life for the men affected. A 66-year-old male diagnosed with Grade II Benign Prostatic Hyperplasia (BPH) was administered with 500 mg of *Paribhadra Paneeyakshara* with 1 gram of *Guda*, twice daily for 45 days and the subjective and objective parameters were assessed.

Case Report

A 66-year-old male approached the *Shalyatantra* OPD of Pankajakasthuri Ayurveda Medical College and Postgraduate Centre, Thiruvananthapuram with the symptoms of increased frequency of micturition, nocturia, incomplete emptying of urine, intermittent flow and painful urination of 3-year duration. The symptom onset was slow and has been aggravated since the last 6 months. Dysuria aggravated on suppression of urine for a long time and other symptoms aggravated during cold weather. The subject had not undergone any other treatment modalities for the same. Routine blood and urine investigations, blood sugar, blood urea, serum creatinine and serum Prostate Specific Antigen were monitored and found to be within normal limits. Prostate gland was per rectally palpated and found to be mildly tender with free rectal mucosa. Subjective IPSS assessment and USG abdomen confirmed the

Special Investigations

USG abdomen was done before commencing the treatment and the findings are noted in table no. 3.

Table 3: Findings of USG Abdomen

Kidneys	Right kidney: 9.2 × 4.7cm Left kidney: 9.7 × 5.8cm No other abnormality detected
Bladder	Adequately distended

diagnosis of Grade II Prostatomegaly [9,10]. Evidences eliminating chances of Carcinoma prostate, bladder neck obstruction/ end stage renal disease were also obtained with USG abdomen and other routine blood and urine investigations.

History of past illness

Subject had no known history of Diabetes mellitus, Hypertension, Dyslipidemia, Tuberculosis, Urolithiasis/ Cystitis or any significant medication history. Subject had undergone surgical intervention for bilateral inguinal hernia 10 years back.

Personal history

The subject was on mixed diet, with regular bowel habit, good appetite. Sleep was interrupted due to nocturia. The subject did not report any history of addictions/ allergic manifestations.

Physical examination

No abnormalities were detected during general and systemic examination. Vitals were stable. Local examination of abdomen and back revealed a surgical scar over abdomen. Kidneys and bladder were non-palpable, with a negative murphy renal punch.

Digital rectal examination

The findings on inspection and palpation concerning the anal canal and rectum are enlisted in table no.1 and 2 respectively.

Table 1: Findings on Inspection of Anal and Perianal Region

Inspection	Findings
Pile mass	Absent
Growth	Absent
Sentinel Tag	Absent
Fissure	Absent

Table 2: Findings on Palpation of Anal Canal

Palpation	Findings
Sphincter tone	Normal
Prostate enlargement	Present
Surface	Smooth
Consistency	Soft
Tenderness	Present
Medial sulcus	Not palpable
Rectal mucosa	Free

	No diverticulum/trabeculae/wall thickening noted. No evidence of cystitis
Prostate	Size: 4.3 × 5 × 3.7cm, Volume: 43 CC
Bio texture of prostate	Homogenous
Lobe involvement	Median lobe
Post voidal residual urine	179ml
Grading of BPH	Grade II

Assessment Criteria

Subjective criterion for assessment was the International Prostate Symptom Score, assessed on 0th and 45th day^[9]. Symptoms assessed are- incomplete emptying of urine, increased frequency of micturition, intermittency, urgency, weak stream of urine, straining during micturition, nocturia^[9]. The detailed proforma for the IPSS assessment is given below in table no. 4.

Table 4: IPSS Sheet

In the past month	Not at all	Less than 1 in 5 times	Less than half the time	About half the time	More than half the time	Almost always
1. Incomplete Emptying (how often have you had the sensation of not emptying your bladder?)	0	1	2	3	4	5
2. Frequency (how often have you had to urinate less than every 2 hours?)	0	1	2	3	4	5
3. Intermittency (how often have you found you stopped and started again several times when you urinated?)	0	1	2	3	4	5
4. Urgency (how often have you found it difficult to postpone urination?)	0	1	2	3	4	5
5. Weak stream (how often have you had a weak urinary stream?)	0	1	2	3	4	5
6. Straining (how often have you had to push/ strain to begin urination?)	0	1	2	3	4	5
7. Nocturia (how many times did you most typically get up to urinate from the time you went to bed at night until the time you got up in the morning?)	0	1	2	3	4	5
Total IPS Scoring: 0 – 7- Mild; 8-19- Moderate; 20-35- Severe						

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

Objective criterion for assessment was USG abdomen was done before and after treatment with special reference to prostate size, post voidal residual urine and grading of BPH.

Preparation of *Paribhadra Paneeyakshara* [11]

The phytochemical properties of *Paribhadra* and *Guda* are as given in table no. 5.

Table 5: Properties of *Paribhadra* and *Guda* According to Ayurveda [6, 7]

	<i>Rasa</i> (taste)	<i>Guna</i> (qualities)	<i>Karma</i> (action)
<i>Paribhadra</i>	<i>Katu</i> (pungent)	<i>Ushna</i> (hot in potency)	<i>Vatakaphahara, Shothahara</i>
<i>Guda</i>	<i>Madhura</i> (sweet)	<i>Snigdha</i> (moist), <i>Eeshat Kshareeya</i> (slightly alkaline), <i>Naati Sheeta</i> (not too cold in potency), <i>Naabhishyandi</i> (does not occlude channels)	<i>Kaphavatahara, Mutrashodhaka</i> (ensures proper filtration of urine), <i>Shakrut-mutranulomaka</i> (guides in timely elimination of faeces and urine), <i>Hridya</i> (good for heart), <i>Agnikrut</i> (promotes digestion)

Genuine and fresh stem bark of *Paribhadra* was collected from local source, authenticated by *Dravya Guna* expert and made into small pieces (fig. 1). It was sun dried and burnt completely in open air (fig. 2, fig. 3). The ash was allowed to cool down on its own, collected and mixed with 6 times water, stirred well and kept overnight (fig. 5, fig. 6). Next day, the clear supernatant liquid was filtered through a clean cloth for 21 times into a clean vessel (fig. 7, fig. 8). *Gomootravarna Ksharodaka* (cow-urine- coloured filtrate) was obtained (fig. 9). This *Ksharodaka* was boiled in an iron pan till all water evaporated leaving behind a fine white powder at the bottom of the vessel (fig. 10, fig. 11). This *Kshara* was collected and stored (fig. 12).



Fig. 1: Fresh sample of *Paribhadra* bark



Fig. 2: Dried *Paribhadra* bark



Fig. 3: Burning *Paribhadra* bark in open air



Fig. 4: *Paribhadra* bark burnt to ashes



Fig. 5: Ash macerated in 6 parts of water



Fig. 6: Clear supernatant liquid after 1 night



Fig. 7: Filtration



Fig. 8: After 1st filtration



Fig. 9: After 21st filtration- *Gomootravarna*



Fig. 10: Boiling to obtain *Kshara*



Fig. 11: Moisture content evaporated

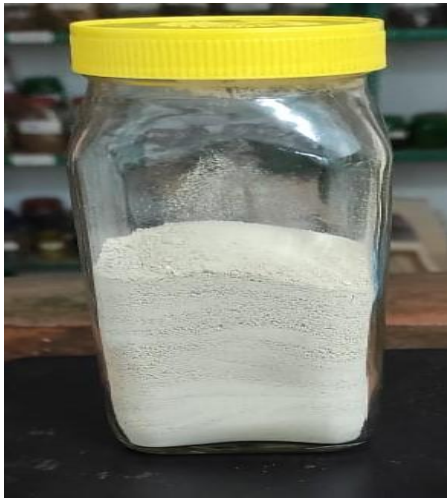


Fig. 12: Paribhadra Paneeyakshara



Fig. 13: Packaging of Kshara and Guda

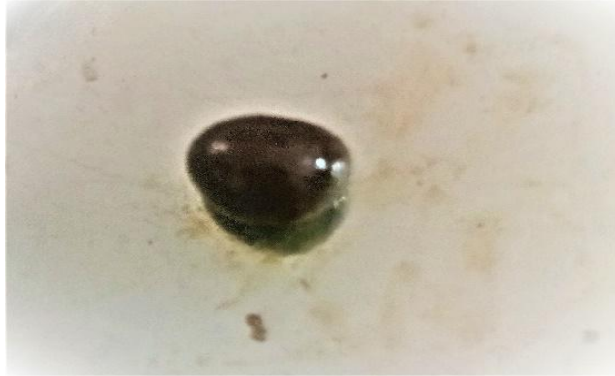


Fig. 14: Kshara mixed with Guda

Intervention Schedule

A voluntary written informed consent was obtained from the subject before commencing the intervention for publishing the case report. Small packing of 500mg of *Kshara* were prepared, stored in well dried small airtight glass bottles. Powdered *Guda* measuring 1 gram each was also packed in similar glass containers (fig. 13). Subject was advised to take 500mg of the *Kshara* by mixing it with 1 gram of powdered *Guda* morning and evening, half an hour before food ^[12] (fig. 14). Period of intervention was 45 days.

Results on Case Study

The final assessment after treatment was done by comparing the IPSS and USG abdomen findings before and after treatment, the details of which are represented in table no. 6 and 7 respectively.

IPSS

Table 6: IPSS Before and After Treatment

S. No	Symptoms	Before treatment- Day 0	After treatment- Day 46
1	Incomplete emptying	3	2
2	Frequency	2	1
3	Intermittency	3	2
4	Weak stream	1	1
5	Straining	0	0
6	Nocturia	2	1
7	Urgency	0	0
8	Quality of life due to urinary symptoms	3	0
	Total score	14	7

Before Treatment: Moderate

After Treatment: Mild

USG abdomen

Table 7: USG Abdomen Findings Before and After Treatment

S. No	Criteria	Before treatment-Day 0	After treatment-Day 46
1	Prostate size and volume	4.3 × 5 × 3.7 cm, 43 cc	4 × 3.4 × 3.2 cm, 39 cc
2	Post- voidal Residual urine	179 ml	118 ml
3	Grading	II	I

DISCUSSION

In this case study, there is a remarkable relief in subjective symptoms assessed through IPSS. The score changed from moderate to mild (14-7). According to the sonography report, post-voidal residual urine was significantly lowered to 118 ml from 179ml. The volume of prostate was brought down from 43 cc to 39 cc. The stage of the disease changed from Grade II to Grade I after the intervention.

Ayurveda has picturized *Mutraghata* as a syndrome which covers most pathologies of *Mutravahasrothas*. Out of the types of *Mutraghata*, *Vatashteela* is closely similar to BPH with respect to the lower urinary tract symptoms and bladder outlet obstruction. According to Dalhana, 'Sarveshu *Mutraghaateshu Yadho Vataha Kaaranam*' [4]. This can be linked to the *Vataavidhi* occurring in old age and the increasing incidence of BPH in the age group of 60- 70 years. *Vatashteela* is nothing but *Ashteelaabha Ghana Granthi* located between the *Sharkrutmarga* and *Vasti* influenced by *Vataavidhi* causing *Vitmootranilasanga*[4]. This logically justifies on adapting *Mutraghata Chikitsa* in BPH. The reason for considering *Paribhadra Paneeyakshara* is its indication in *Mutraghata Prakarana* of Sushruta with specific *Anupana* of *Guda (Gudopadamsham)*[4].

The conservative measures used presently for BPH act either by preventing hyperplasia or by relaxing the internal sphincter[13]. The intervention that was used in this case study comes under the category of *Kshara* that basically contains sodium, potassium, calcium oxide, carbonated magnesium and silica[14]. *Kshara* is predominantly composed of hydroxides that help in *Ksharana Karma* which may be considered equivalent to preventing of hyperplasia conservatively[14]. Classical description available about the action of *Ksharakarma* is *Dushtatwaktamsadi Chaalana*[11]. *Paribhadra Paneeyakshara* is specifically indicated for *Kaphaja Mutraghata chikitsa*[4]. The hyperplasia can be attributed to *Vataavidhi* and retention of urine (*Kledamsha*) to *Kaphavidhi*. Hence, *Paribhadra* which is *Vatakaphahara* in its *Kshara* form must be ideal in this condition.

Paribhadra is a drug included by Bhavamishra in *Guluchaydi Varga* and in Rajanighantu under *Shalmalyadi varga*[15,16]. Phytochemical studies on *Erythrina indica* has proven the presence of various

alkaloids, erythrinine-A, B & C, erysotine, erythratidine, epierythratidine in its bark [17]. Hence, it is said to act as neuromuscular blocker, smooth muscle relaxant and CNS depressant which can be of use in BPH being a disorder believed to be influenced by hormonal variations[17]. The triad of BPH- urgency, frequency and hesitancy can be said to be a direct influence from the neuromuscular pathway[10].

A major sequelae of chronic urine retention in BPH is recurrent UTI, cystitis, vesical calculus and even hydronephrosis in severe cases[10]. These are the instances where *Kshara* is expected to play a significant role. *Kshara* because of its *Teekshna Guna* has the potential to eliminate the excess *Kledamsha*[11] and its alkaline nature hinders the growth of infectious microbes in the urinary tract. When pooling of urine is prevented, that naturally eliminates the incidence of calculi and other bladder changes like trabeculae, saccululation and wall thickening.

Guda is the *Anupana* specifically mentioned by Sushruta along with *Paribhadra Kshara* for *Mutraghata Chikitsa*[4]. It is *Eeshat Kshaareeya*, *Vataghna*, *Mutrashodhaka* and *Mutranulomaka*, making it a perfect *Anupana* in this context [7].

CONCLUSION

Paribhadra Paneeyakshara mentioned in *Mutraghata Prakarana* of *Sushruta Samhita* is a very simple formulation of the drug *Erythrina indica* in its alkaline form (*Kshara*) advised to be administered with *Guda*. According to the study, *Paribhadra Paneeyakshara* with *Guda* as *Anupana*, administered in the classical dosage of 8 *Ratti* (500mg twice daily), in the *Oushadha Sevana Kala* for *Apanavayudushti* has given significant result in a case of *Mutraghata* caused by Grade II BPH when assessed with subjective and objective parameters.

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