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An ayurvedic review concept of *Vatastheela mutraghat* W.S.R TO BPH (Benign Prostatic Hyperplasia)

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Abstract
As a person enters into geriatric age group so many health issues start in the form of chronicity like osteoarthritis, dementia, Alzheimer's disease and Parkinson's, osteoporosis, COPD and diseases related to lower urinary tract symptoms (LUTS) which are quite common in old aged males. There are various diseases related to LUTS in which most common which is found at higher incidence rate is BPH. Since ancient time *Ayurveda* had explained urology under the section of *Ashmari, Mutrakrichhra* and *Mutraghat.* Acharya Sushruta explained symptoms like inability to pass urine completely, straining frequent micturition and nocturia under *Mutraghat.* This disease belongs to Mutravah strotas (Urinary tract). BPH is benign enlargement of prostate which occurs after age of 50 years but usually between 60 and 70 years age group. In Modern science conservative and surgical treatment explained where as in *Ayurveda* Acharya mentioned various *Kashaya, Uttarbasti* and various *shodhanopakrama* for the management of *vatashtheela.*

Keywords: BPH (Benign prostatic hypertrophy), mutraghat, vatashtheela, mutrashtheela, uttarbasti

Introduction
Benign prostatic hyperplasia is an enlargement of prostate above 50 years of age, which is non -malignant overgrowth of the prostate gland. Usually occurring in between 60 and 70 years age. BPH affects both glandular epithelium and connective tissue stroma [1].
Other names of BPH are senile enlargement of the prostate, adenoma, adenomyoma, benign prostatic hyperplasia or hypertrophy and nodular hyperplasia [2].
In India Prevalence rate of BPH is 37% in the age group more than 50 years.
By the age of 60 years 50% of the men have histological evidence of BPH [3].
As Ayurveda is an ancient science of medicine had explained about the diseases of urinary tract system i.e. mutravaha strotas under the topic of *Ashmari, Mutraghat* and Mutrakricchara.
BPH is correlated with Vatashtheela. Vatashtheela is a disease of Mutravah strotas, which is one among the 12 types of *Mutraghat* described by *Acharya Sushrut* [4]. The term *Mutraghat* is composed of two words "Mutra" and "Aghat" means obstruction in the passage of urine which leads to low urine output. *"*Mutraghato mutravarodh" [5].
Acharya Sushruta explained complete pathophysiology of *Vatashtheela* as the apan vayu situated in the space between rectum (*shakrinmarga)* and urinary bladder (*basti)* which produces a hard swelling like a stone, immobile and prominent growth. This growth causes obstruction in the passage of stool, urine and flatus (Vida Mutranil Sanga) leading to distension of bladder due to retention of urine and severe pain at suprapubic region. [6]
Acharya Dalhan had explained regarding the structure and location of *paurush granthi* in the body i.e. in the *bastimoola Pradesh.* [7]
The vatashtheela shows the symptoms like urine retention, incomplete voiding, dribbling and frequent micturition along with this straining for micturition. All these are the features of Lower Urinary Tract Symptoms (LUTS) and can be correlated with Benign Prostatic Hyperplasia according to modern.

Clinical features of BPH: Hesitancy, Dysuria, Frequency, Urgency, Haematuria, Pain, Retention of urine, renal failure, Prostatism [8].
Sushrut has described general guidelines for management of all types of *Mutraghat* by using *Kashay, Kalka, Avaleh, Kshira, Madya, Upanaha, Avagah Swed and uttar basti.* Other *shodhan upkram* also advised.

Aim and Objectives

To do literature-based study of Mutraghat and vatashtheela along with its modern aspect.

Material and Methods: All data for this study is collected from an ayurvedic literature *viz*. Laghutrayi and Bruhatrayi and from some published articles related to Vatashtheela.

Ayurvedic Review

Samhita period

The samhita period (1500-1200 BC) is supposed to be the golden period of when the Ayurveda developed as a scientific and systematic system of medicine. In the samhiatas detailed description regarding the anatomy, physiology, causative factors, classification, clinical features and management of various urological conditions explained.

Classification of *Mutraghat* according to different *Acharyas*

Vatashteela is a type of Mutraghat according to different Acharyas it is classified as follows

Sr. No	Sushrut (S.U/58)	Charak (Ch.si/9)	Vagbhat A. Hr.N/9	Madhavkara (M.N./31)
1.	*Vatakundalika*	*Vatakundalika*	*Vatakundalika*	*Vatakundalika*
2	*Vatashteela*	*Ashteela*	*Vatashteela*	*Ashteela*
3	*Vatavasti*	*Vatavasti*	*Vatavasti*	*Vatavasti*
4	*Mutrateeta*	*Mutrateeta*	*Mutrateeta*	*Mutrateeta*
5	*Mutrajathara*	*Mutrajathara*	*Mutrajathara*	*Mutrajathara*
6	*Mutrasang*	*Mutrasang*	*Mutrasang*	*Mutrasang*
7	*Mutrakshaya*	*Mutrakshaya*	*Mutrakshaya*	*Mutrakshaya*
8	*Mutragranthi*	*Mutragranthi*	*Mutragranthi*	*Mutragranthi*
9	*Mutrasukra*	*Kricchra*	*Mutrasukra*	*Mutrasukra*
10	*Ushnavata*	*Ushnavata*	*Ushnavata*	*Ushnavata*
11	*Mutroksada pittaj*	*Mutroksada*	*Mutrasada*	*Mutrasada*
12	*Mutroksad kaphaj*	*Vidvighat*	*Vidvighata*	*Vidvighata*
13	-	*Vastikundala*		*Vastikundala*

***Sushruta Samhita*:** *Acharya Sushrut* is the father of *shalyatantra* (surgery) who had been given the detailed description regarding various diseases. *Sushruta* had explained in detail regarding anatomy, physiology and Pathophysiology of various diseases of *Mutravaha srotas* along with its hetu, purvaroop, roop, samprapti and chikitsa. In the topic of Ashmari nidan Acharya Sushruta mentioned the location of basti and physiology of formation of urine. Acharya Sushruta has explained Mutraghat in uttar tantra in the 58th adhyay in this adhyay he mentioned 12 types of Mutraghat in which vatashtheela is mentioned.

Charak Samhita: In charak samhita description regarding anatomy, physiology diseases of mutrawah strota and its management given but in different sthan.

Explained the factors which causes diseases mutravaha strotas in viman sthan those are holding urine for long time, excess coitus, trauma at the place of mutravaha strotas and weakness. Also explained the symptoms of diseases excessive and frequent micturition, dysuria and painful micturition

In sutra sthan adhyay 4 shadvirechanashatashritiya in which he mentioned Mutrasangrahaniya, Mutravirechaniya and Mutraviranjaniya kashaya mentioned [9].

In siddhi sthan thirteen types of basti rogas have been mentioned under the caption of Mutradosha,which are similar to that of Mutaghat as explained by the Acharya Sushruta.

Ashtang Sangrah & Ashtang Hridaya

Mutraghat has been described in detail in the adhyay of Mutraghat nidan,which includes Mutrakrichhra and Ashmari roga. Even he explained anatomy and physiology of mutravaha strotas. Ashtang sangrahkar catagorized diseases of mutravaha strotas into parts i.e. Mutra – atipravrittijanya and Mutra –Apravrittijanya Roga.

Madhav Nidan

In Madhav nidan Madhavkar mentioned all the diseases of Mutravaha Strotas in separate parts i.e. Mutraghat, mutrakricchra and Ashmari [10]. He also described the Mutraghat same as per the Charak and Sushrut. He has differentiated Mutraghat and Mutrakricchara on the basis of obstruction to the flow of urine and stream of the urine.

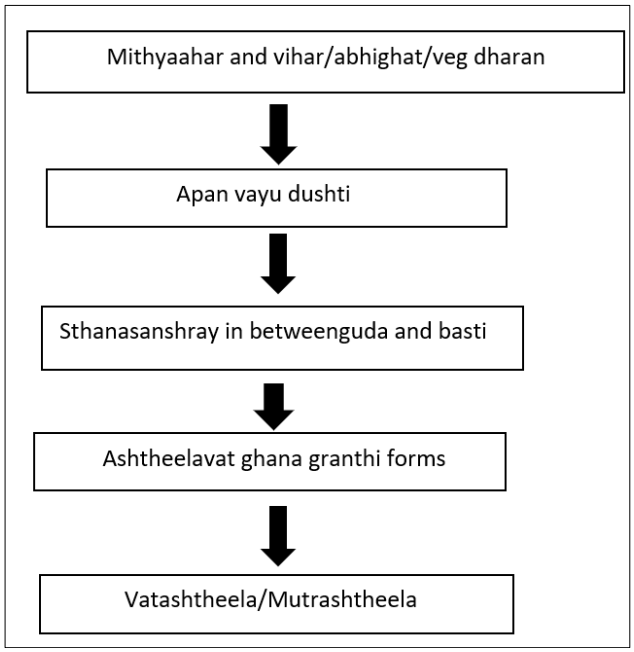
Bhavprakash: Vitiated apan vayu causes distention between Gud and Mutrashaya region due to which there is a formation of painful, mobile lump (Granthi) results into obstruction of the passage of urine [11].

Even Acharya mentioned the management of Mutraghat in detail along with its kalp in pain associated Mutraghat snehan, swedan performed after this virechan and uttarbasti advised to treat it. [12].

Nidan (causative factors) [13]

1. Vata prakopak ahar- vihar
2. Vegaavdharan
3. katu-tikt ahar
4. Adhyasan
5. Ajeernashana

Samprapti [14]



Samprapti Ghatak

Dosh	Apan vayu
Dushya	Ras, Rakt, Swed, Mootra
Agni	Dhatwagni, Jatharagni
Sthana	Pakwashay
Adhishthan	Basti
Strotas	Mootravah strotas
Strotodushti	Sanga, Vimargagaman, Siragranthi
Sadhyasadhyata	Krichrasadhya

Chikitsa

Ayurvedic approach

1. *Nidan parivarjan.*
2. *Shodhan* (*Abhyang, Niruh basti, Uttarbasti, Virechan)*
3. *Shaman (Vatashamak chikitsa).*
4. *Mootrakrichhra chikitsa.*
5. *Rasayana*
6. *Pathyapathya*

1. *Nidan /Hetu parivarjan:* Avoiding the exposure to causative factors i.e. nidan/ hetu

2. Shodhan: When doshas inside body raises and shows its signs and symptoms at this time *shodhan karm* is performed in which *snehan* followed by *swedan* is performed after this *sneh virechan* given.

Contents of the Uttarbasti tail: *Teel tail, madhu, saindhav and bheemseni karpur*

Mechanism of action of Uttarbasti: As it contains madhu and saindhav it is having properties of lekhan and ksharan karm it acts on the size of prostate glands and also improves urine flow rate.

So many drugs are used in uttar basti but the media through which it is given is teel tail. So here probable mode of action is described. Teel tail is having vaat kaph shamak, mrudu, sukshma, sar, vikasi properties. It can be absorbed into deeper tissues and cells which results into increase in elastilcity and proper healing of the tissue along with regeneration of tissues. Teel tail also helps in reducing the shoth over the paurush granthi by reducing vaat and kaph dosh as it is having vaat kaph shamak properties. The poorana of *basti* is done by *tila taila* according to *Upasnehan Nyaya*. The detrusor muscles which become hypertrophied or atonic in case of benign prostatic hyperplasia, are nourished & rejunivated by *tilataila*. Hence frequency & urgency of micturition are minimized. Also it helps to improve force of urine stream.

Drug formulations

1. Kwath of Nal, kush, kash, ikshu, bala and mishri (rock candy) given early in the morning.
2. Kwath of Veerataradi gan with Shilajeet
3. Root of Mayurshikha (Adiantium caudatum) with tandulodak used to treat Mutraghat.
4. Chandraprabha vati.
5. Gokshuradi guggulu
6. Pashanbhedadi churna
7. Dhanyagokshur ghrut

Benign enlargement of the prostate/ benign prostatic hyperplasia (BPH) As per Modern medicine

A few other names have been given to this condition like senile enlargement of the prostate, adenoma, adenomyoma, benign prostatic hyperplasia or hypertrophy and nodular hyperplasia.

Hormonal l influence on the prostate - The principal hormone, which acts on prostate, is testosterone secreted by the Leydig cells of the testis under the control of luteinizing hormone (LH) of anterior pituitary, which is again under control of luteinizing hormone-releasing hormone (LHRH) of hypothalamus. An enzyme called 5 a-reductase, which is present in high concentration in prostate, converts testosterone to 5-dihydrotestosterone (DHT). In old age serum oestrogen is increased which acts on the hypothalamus decreasing the secretion of LHRH and hence LH, causing ultimately decrease in serum testosterone level. Moreover. Oestrogenic steroids secreted by the adrenal cortex in aging male play a part in disrupting the balance between DHT and local peptide growth factors thus increasing the risk of benign prostatic hyperplasia.

Aetiology

Though the pathology has been well established that it is a nodular hyperplasia, but its cause is not known definitely. It is a disease process with a well-defined age incidence. It is essentially a disease of old age, after 50 years. Only under the rarest circumstances it may occur in early life. Sir Benjamin Bordie's adage is very appropriate in this respect. He said, 'when the hair becomes grey and thin, when there forms a white zone around the cornea, at the same time ordinarily, I dare say invariably, the prostate increases in volume'.

Two theories have been put forward to indicate the cause of such hypertrophy of the prostate as follows -

(I) The hormone theory

According to this theory it is caused due to disturbance in the ration of DHT and estrogen. Level of testosterone. Activation of alpha-1 adrenoreceptors, which increases bladder neck and prostate smooth muscle tone

(ii) The neoplastic theory

Fibrous tissue proliferation of all the elements of prostate like fibrous, muscular, and glandular resulting in fibromyoedinoma of prostate which leads to formation of BPH.

Pathology: BPH usually involves median and lateral lobes or one of them. It involves adenomatous zone of prostate, i.e. sub mucosal glands. Median lobe enlarges into the bladder. Lateral lobes narrow the urethra causing obstruction. Urethra above the verumontanum gets elongated and narrowed. Bladder initially takes the pressure burden causing trabeculations, sacculations and later diverticula formation.

Enlarged prostate compresses the prostatic venous plexus causing congestion, called as vesical piles leading to haematuria.

Incrimination of BPH as the source of haematuria before excluding other causes is termed as "Decoy prostate". Kidney and ureter: Backpressure causes hydroureter and hydronephrosis. Secondary ascending infection can cause acute or chronic pyelonephritis.

Often severe obstruction can lead to obstructive uropathy with renal failure. BPH causes impotence [15].

Clinical Features

- Frequency occurs due to introversion of sensitive urethral mucosa into the bladder or due to cystitis and urethritis.
- Urgency, hesitancy, nocturia.
- Overflow and terminal dribbling.
- Difficulty in micturition with weak stream and dribble.
- Pain in suprapubic region and in loin due to cystitis and hydronephrosis respectively.
- Acute retention of urine.
- Chronic retention also can occur in BPH. 0
- Retention with overflow. High pressure chronic retention with functional obstruction.
- Impaired bladder emptying with its problems like cystitis, urethritis, stone formation and residual urine.
- Haematuria.

- Renal failure.
- Prostatism is a combination of symptoms like frequency both at day and night, poor stream, delay in starting and difficulty in micturition.
- Tenderness in suprapubic region, with palpable enlarged bladder due to chronic retention. Hydronephrotic kidney may be palpable.
- Per rectal examination shows enlarged prostate.
- Features of urinary infection like fever, chills, burning micturition [15].

Special Investigations

1. **Examination of urine:** Microscopic, culture and sensitivity
2. **Examination of blood:** Serum urea, N.P.N. and creatinine should be performed to assess renal function besides the usual blood count, haemoglobin estimation and E.S.R.

3. **Estimation of prostate-specific antigen (PSA)** [16]
   It is used as a marker for prostatic disease. It is more important in the diagnosis of carcinoma of prostate
   The normal upper limit is about 4nmol/ml.
   In benign hyperplasia of prostate the level goes upto 4-10nmol/ml
   In localised cancer the level goes upto15nmol/ml
   In metastatic cancer the level goes upto 30nmol/ml

4. **Post void residual (PVR) estimation** [17]
   Although there is a high degree of extra individual variation in the PVR it may still provide valuable information with regard to bladder emptying. It may not distinguish adequately between bladder outlet obstruction and poor detrusor function. Greater than 300 ml considered a potential risk factor for upper urinary tract dilation and renal impairment.

5. **Uroflowmetry** [18]
   Uroflowmetry is the electronic recording of the urinary flow rate throughout the course of micturition. It is a common non-invasive urodynamic test used in the diagnostic evaluation of patients presenting with symptom of BOO. Some considers Uroflowmetry most useful urodynamic technique for the assessment of obstructive uropathy.
6. Straight X-Ray
7. Excretory urography
8. Cystoscopy
9. Ultrasonography
10. Transrectal ultrasound scanning

Differential Diagnosis

1. Stricture urethra.
2. Bladder tumour,
3. Carcinoma prostate.
4. Neurological causes of retention of urine like diabetes, tabes dorsalis, disseminated sclerosis, Parkinson's disease.
5. Neurogenic bladder
6. Idiopathic detrusor activity.
7. Bladder neck stenosis; bladder neck hypertrophy (19).

Complications of BPH

1. Retention of urine (Acute and chronic)
2. Recurrent urinary tract infections
3. Bladder calculi
4. Secondary bladder instability
5. Haematuria

Management of BPH

Treatment of BPH depends upon the severity of the disease. Patients with mild symptoms may be treated on conservative basis and if the disease progresses it should be treated on the basis of surgical intervention.

Conservative management

1. Regular prostatic massages may combat prostatic congestion.
2. To protect vesical tone the patient should be cautioned against excessive intake of fluid in a short period of time. Similarly alcohol should be avoided due to its diuretic effect. Also to avoid the fluid intake at evening and avoid caffeine and smoking.
3. Alpha 1 adrenergic blocking agents-which inhibit smooth muscle contraction of prostate. They reduce the bladder neck resistance so as to improve the urine flow

a) Short acting drugs - prazosin and indoramin
b) Long acting drugs are terazocin and doxazosin
c) Adrenoceptor blocking agent: Tamsulosin 0.2 to 0.4 mg OD for 12 weeks.
d) 5-alpha reductase inhibitor inhibits conversion of testosterone to dihydrotestosterone.

Surgical interventions

1. Suprapubic prostatectomy
2. Retropubic prostatectomy
3. Transurethral prostatectomy
4. Transurethral resection of prostate
5. Trans urethral microwave therapy
6. Trans urethral laser ablation of the prostate

Discussion

BPH is very common health problem in geriatric age group and incidences are also increasing day by day. BPH is correlated with Vatashtheela which is subtype of Mutraghat in Ayurveda as the sign and symptoms resembles with each other. In old age group Vaat dosha is dominant, as the vaatashtela also develops due to vitiated vaat dosha. Due to increase in apan vayu and kaph which gets located at basti and gud Pradesh which produces stone like swelling due to which obstruction to the flow of urine occurs and related symptoms like dribbling of urine, burning micturition, hesitancy, pain at suprapubic region. Mutraghat can be treated with Aushadh chikitsa, basti karm and by following lifestyle changes. Sushruta had mentioned certain principles for the management of all type of Mutraghata with use of Kashaya, Kalka, Avaleha, Kshar, Madya, Aasava, Snehana, Swedana, Basti and Uttarbasti which is based on pathogenesis told in Ayurveda classics.

Mootra-virechaniya and Mutra-visodhaniya drugs are useful in benign prostatic hypertrophy like Gokshuradi Guggulu, Punarnavdi Guggulu, Chandraprabha vati etc. Drugs having Vata and Kapha pacifying properties like Yavakshara, Moolak kshara ete can be prescribed. The dose of all the above mentioned drugs should be adjusted according to severity of disease and strength of patient.

Vasti karma: Vata dosha is highly influencing element in the genesis of benign prostatic hyperplasia. Vata pacifying Vasti (i.e. uttar vasti) is effective in reducing the symptoms of BPH

with kashayas of Dashamool, Gokshuradi and Varunadi Gana medicines.

Conclusion

BPH affects the normal physiology of urination and also causes the another related diseases like cystitis, bladder calculus, hydronephrosis etc. In Ayurveda vatashtheela is correlated with BPH. From above review it is concluded that uttar basti is very much effective in giving relief from the symptom i.e. it improves urine stream flow, reduces post void volume of urine in the bladder.

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