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MANAGEMENT OF BENIGN PROSTATIC HYPERPLASIA BY UNANI DRUGS

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ABSTRACT

Benign prostatic hyperplasia (BPH) is a common urologic disorder largely affecting men aged above 50 years In Unani the description of disease in different ways. At some places, it has been described in symptomatic form while at other places it has been considered as a disease. The disease has different name in Unani literature like Waram-e-unq-e-masana (swelling of the neck of urinary bladder). Symptomatic description include Ihtibas-e-Baul (Retention of urine) Taqtir-ul-baul (dribbling of urine). Now it is confirmed that the disease is because of the hypertrophy of prostate gland. Though the name of the gland is not there. In modern medicine several treatment options are available but they are associated with some disadvantages. As far as the treatment is concerned in Unani, there are many single and compound drugs which are effective in the treatment of the disease. Single drugs useful in BPH are Braham Dandi (Echinops echinatus), Basahri Booti(Aerva lanata), Gokhru (Tribulus terristris), Satawar (Asparagas racemosus), Karanjwa (Cesalpinia bonducella). The details will be discussed in full length paper.

KEYWORD: Benign Prostate Hyperplasia, Ihtibas-e-Baul, Warm-e-Unq-e-Masana.

INTRODUCTION

Benign prostatic hyperplasia occurs in about half of men in their 50's and about 90% of men over 85 years of age. Benign prostatic hypertrophy/hyperplasia is the increase in size of the prostate inside its capsule, which exerts pressure on the urethra, leading to the obstruction to urine flow. Benign prostatic hyperplasia is characterized by a slowdown in the urine stream build up of urine in the bladder and a frequent (and urgent) need to urinate. Unlike prostate cancer, BPH is not a life-threatening disease; however, it affects the quality of life (QOL).

Urinary bladder stones are formed from the crystallization of salts in the residual urine. Urinary retention, termed acute or chronic, is another form of progression.

Acute urinary retention is the inability to void, while in chronic urinary retention the residual urinary volume gradually increases, and the bladder distends. This can result in bladder hypotonia. Some patients that suffer from chronic urinary retention may eventually progress to renal failure, a condition termed obstructive uropathy.

SIGNS AND SYMPTOMS

BPH is the most common cause of lower urinary tract symptoms (LUTS), which are divided into storage, voiding, and symptoms which occur after urination. Storage symptoms include the need to urinate frequently, waking at night to urinate, urgency (compelling need to void that cannot be deferred), involuntary urination, including involuntary urination at night, or urge incontinence (urine leak following a strong sudden need to urinate). Voiding symptoms include urinary hesitancy (a delay between trying to urinate and the flow actually beginning), intermittency (not continuous), involuntary interruption of voiding, weak urinary stream, straining to void, a sensation of incomplete emptying, and uncontrollable leaking after the end of urination. These symptoms may be accompanied by bladder pain or pain while urinating, called dysuria.

Bladder outlet obstruction (BOO) can be caused by BPH. Symptoms are abdominal pain, a continuous feeling of a full bladder, frequent urination, acute urinary retention (inability to urinate), pain during urination (dysuria), problems starting urination (urinary hesitancy), slow urine flow, starting and stopping (urinary intermittency), and nocturia.

BPH can be a progressive disease, especially if left untreated. Incomplete voiding results in residual urine or urinary stasis, which can lead to an increased risk of urinary tract infection.

CAUSES

Hormones

Most experts consider androgens (testosterone and related hormones) to play a permissive role in the development of BPH. This means that androgens must be present for BPH to occur, but do not necessarily directly cause the condition. This is supported by evidence suggesting that castrated boys do not develop BPH when they age. In an unusual study of 26 eunuchs from the palace of the Qing dynasty still living in Beijing in 1960, the prostate could

not be felt in 81% of the studied eunuchs. The average time since castration was 54 years (range, 41–65 years). On the other hand, some studies suggest that administering exogenous testosterone is not associated with a significant increase in the risk of BPH symptoms, so the role of testosterone in prostate cancer and BPH is still unclear. Further randomized controlled trials with more participants are needed to quantify any risk of giving exogenous testosterone.

Dihydrotestosterone (DHT), a metabolite of testosterone, is a critical mediator of prostatic growth. DHT is synthesized in the prostate from circulating testosterone by the action of the enzyme 5α-reductase, type 2. DHT can act in an autocrine fashion on the stromal cells or in paracrine fashion by diffusing into nearby epithelial cells. In both of these cell types, DHT binds to nuclear androgen receptors and signals the transcription of growth factors that are mitogenic to the epithelial and stromal cells. DHT is ten times more potent than testosterone because it dissociates from the androgen receptor more slowly. The importance of DHT in causing nodular hyperplasia is supported by clinical observations in which an inhibitor of 5α-reductase such as finasteride is given to men with this condition. Therapy with a 5α-reductase inhibitor markedly reduces the DHT content of the prostate and, in turn, reduces prostate volume and BPH symptoms.

Testosterone promotes prostate cell proliferation, but relatively low levels of serum testosterone are found in patients with BPH. One small study has shown that medical castration lowers the serum and prostate hormone levels unevenly, having less effect on testosterone and dihydrotestosterone levels in the prostate.

While there is some evidence that estrogen may play a role in the cause of BPH, this effect appears to be mediated mainly through local conversion of androgens to estrogen in the prostate tissue rather than a direct effect of estrogen itself. In canine *in vivo* studies castration, which significantly reduced androgen levels but left estrogen levels unchanged, caused significant atrophy of the prostate. Studies looking for a correlation between prostatic hyperplasia and serum estrogen levels in humans have generally shown none.

In 2008, Gat et al. published evidence that BPH is caused by failure in the spermatic venous drainage system resulting in increased hydrostatic pressure and local testosterone levels elevated more than 100 fold above serum levels. If confirmed, this mechanism explains why serum androgen levels do not seem to correlate with BPH and why giving exogenous testosterone would not make much difference.

Diet

Studies indicate that dietary patterns may affect development of BPH, but further research is needed to clarify any important relationship. Studies from China suggest that greater protein intake may be a factor in development of BPH. Men older than 60 in rural areas had very low rates of clinical BPH, while men living in cities and consuming more animal protein had a higher incidence. On the other hand, a study in Japanese-American men in Hawaii found a strong negative association with alcohol intake, but a weak positive association with beef intake. In a large prospective cohort study in the US (the Health Professionals Follow-up Study), investigators reported modest associations between BPH (men with strong symptoms of BPH or surgically confirmed BPH) and total energy and protein, but not fat intake. There is also epidemiological evidence linking BPH with metabolic syndrome (concurrent obesity, impaired glucose metabolism and diabetes, high triglyceride levels, high levels of low-density cholesterol, and hypertension).

Degeneration

Benign prostatic hyperplasia is an age-related disease. Misrepair-accumulation aging theory suggests that development of benign prostatic hyperplasia is a consequence of fibrosis and weakening of the muscular tissue in the prostate. The muscular tissue is important in the functionality of the prostate, and provides the force for excreting the fluid produced by prostatic glands. However, repeated contractions and dilations of myofibers will unavoidably cause injuries and broken myofibers. Myofibers have a low potential for regeneration; therefore, collagen fibers need to be used to replace the broken myofibers. Such misrepairs make the muscular tissue weak in functioning, and the fluid secreted by glands cannot be excreted completely. Then, the accumulation of fluid in glands increases the resistance of muscular tissue during the movements of contractions and dilations, and more and more myofibers will be broken and replaced by collagen fibers.

DIAGNOSIS

The clinical diagnosis of BPH is based on a history of LUTS (lower urinary tract symptoms), a digital rectal exam, and exclusion of other causes of similar signs and symptoms. The degree of LUTS does not necessarily correspond to the size of the prostate. An enlarged prostate gland on rectal examination that is symmetric and smooth supports a diagnosis of BPH. However, if the prostate gland feels asymmetrical, firm, or nodular, this raises concern for prostate cancer.

Urinalysis is typically performed when LUTS are present and BPH is suspected to evaluate for signs of a urinary tract infection, glucose in the urine (suggestive of diabetes), or protein in the urine (suggestive of kidney disease). Bloodwork including kidney function tests and prostate specific antigen (PSA) are often ordered to evaluate for kidney damage and prostate cancer, respectively. However, checking blood PSA levels for prostate cancer screening is controversial and not necessarily indicated in every evaluation for BPH. Benign prostatic hyperplasia and prostate cancer are both capable of increasing blood PSA levels and PSA elevation is unable to differentiate these two conditions well. If PSA levels are checked and are high, then further investigation is warranted. Measures including PSA density, free PSA, rectal examination, and transrectal ultrasonography may be helpful in determining whether a PSA increase is due to BPH or prostate cancer. Ultrasound examination of the testes, prostate, and kidneys is often performed, again to rule out cancer and hydronephrosis.

Validated questionnaires such as the American Urological Association Symptom Index (AUA-SI), the International Prostate Symptom Score (I-PSS), and more recently the UWIN score (urgency, weak stream, incomplete emptying, and nocturia) are useful aids to making the diagnosis of BPH and quantifying the severity of symptoms.

TREATMENT

A wide variety of treatments are available for enlarged prostate, including medication, minimally invasive therapies and surgery. The best treatment choice for you depends on several factors, including:

- The size of your prostate
- Your age
- Your overall health
- The amount of discomfort or bother you are experiencing

If your symptoms are tolerable, you might decide to postpone treatment and simply monitor your symptoms. For some men, symptoms can ease without treatment.

Medication

Medication is the most common treatment for mild to moderate symptoms of prostate enlargement. The options include:

- **Alpha blockers.** These medications relax bladder neck muscles and muscle fibers in the prostate, making urination easier. Alpha blockers — which include alfuzosin (Uroxatral), doxazosin (Cardura), tamsulosin (Flomax) and silodosin (Rapaflo) — usually work quickly in men with relatively small prostates. Side effects might include dizziness and a harmless condition in which semen goes back into the bladder instead of out the tip of the penis (retrograde ejaculation).
- **5-alpha reductase inhibitors.** These medications shrink your prostate by preventing hormonal changes that cause prostate growth. These medications — which include finasteride (Proscar) and dutasteride (Avodart) — might take up to six months to be effective. Side effects include retrograde ejaculation.
- **Combination drug therapy.** Your doctor might recommend taking an alpha blocker and a 5-alpha reductase inhibitor at the same time if either medication alone isn't effective.
- **Tadalafil (Cialis).** Studies suggest this medication, which is often used to treat erectile dysfunction, can also treat prostate enlargement.

Minimally invasive or surgical therapy

Minimally invasive or surgical therapy might be recommended if:

- Your symptoms are moderate to severe
- Medication hasn't relieved your symptoms
- You have a urinary tract obstruction, bladder stones, blood in your urine or kidney problems
- You prefer definitive treatment

Minimally invasive or surgical therapy might not be an option if you have:

- An untreated urinary tract infection
- Urethral stricture disease
- A history of prostate radiation therapy or urinary tract surgery
- A neurological disorder, such as Parkinson's disease or multiple sclerosis

Any type of prostate procedure can cause side effects. Depending on the procedure you choose, complications might include:

- Semen flowing backward into the bladder instead of out through the penis during ejaculation (retrograde ejaculation)
- Temporary difficulty with urination
- Urinary tract infection

- Bleeding
- Erectile dysfunction
- Very rarely, loss of bladder control (incontinence)

There are several types of minimally invasive or surgical therapies.

Transurethral resection of the prostate (TURP)

A lighted scope is inserted into your urethra, and the surgeon removes all but the outer part of the prostate. TURP generally relieves symptoms quickly, and most men have a stronger urine flow soon after the procedure. After TURP you might temporarily need a catheter to drain your bladder.

Transurethral incision of the prostate (TUIP)

A lighted scope is inserted into your urethra, and the surgeon makes one or two small cuts in the prostate gland — making it easier for urine to pass through the urethra. This surgery might be an option if you have a small or moderately enlarged prostate gland, especially if you have health problems that make other surgeries too risky.

Transurethral microwave thermotherapy (TUMT)

Your doctor inserts a special electrode through your urethra into your prostate area. Microwave energy from the electrode destroys the inner portion of the enlarged prostate gland, shrinking it and easing urine flow. TUMT might only partially relieve your symptoms, and it might take some time before you notice results. This surgery is generally used only on small prostates in special circumstances because re-treatment might be necessary.

Transurethral needle ablation (TUNA)

In this procedure, a scope is passed into your urethra, allowing your doctor to place needles into your prostate gland. Radio waves pass through the needles, heating and destroying excess prostate tissue that's blocking urine flow. TUNA may be an option in select cases, but the procedure is rarely used any longer.

Laser therapy

A high-energy laser destroys or removes overgrown prostate tissue. Laser therapy generally relieves symptoms right away and has a lower risk of side effects than does nonlaser surgery. Laser therapy might be used in men who shouldn't have other prostate procedures because they take blood-thinning medications.

The options for laser therapy include

- **Ablative procedures.** These procedures vaporize obstructive prostate tissue to increase urine flow. Examples include photoselective vaporization of the prostate (PVP) and holmium laser ablation of the prostate (HoLAP). Ablative procedures can cause irritating urinary symptoms after surgery, so in rare situations another resection procedure might be needed at some point.
- **Enucleative procedures.** Enucleative procedures, such as holmium laser enucleation of the prostate (HoLEP), generally remove all the prostate tissue blocking urine flow and prevent regrowth of tissue. The removed tissue can be examined for prostate cancer and other conditions. These procedures are similar to open prostatectomy.

Prostatic urethral lift (PUL)

Special tags are used to compress the sides of the prostate to increase the flow of urine. The procedure might be recommended if you have lower urinary tract symptoms. PUL also might be offered to some men concerned about treatment impact on erectile dysfunction and ejaculatory problems, since the effect on ejaculation and sexual function is much lower with PUL that it is with TURP.

Embolization

In this experimental procedure, the blood supply to or from the prostate is selectively blocked, causing the prostate to decrease in size. Long-term data on the effectiveness of this procedure aren't available.

Open or robot-assisted prostatectomy

The surgeon makes an incision in your lower abdomen to reach the prostate and remove tissue. Open prostatectomy is generally done if you have a very large prostate, bladder damage or other complicating factors. The surgery usually requires a short hospital stay and is associated with a higher risk of needing a blood transfusion.

Lifestyle and home remedies

To help control the symptoms of an enlarged prostate, try to:

- **Limit beverages in the evening.** Don't drink anything for an hour or two before bedtime to avoid middle-of-the-night trips to the toilet.
- **Limit caffeine and alcohol.** They can increase urine production, irritate the bladder and worsen symptoms.

- **Limit decongestants or antihistamines.** These drugs tighten the band of muscles around the urethra that control urine flow, making it harder to urinate.
- **Go when you first feel the urge.** Waiting too long might overstretch the bladder muscle and cause damage.
- **Schedule bathroom visits.** Try to urinate at regular times — such as every four to six hours during the day — to "retrain" the bladder. This can be especially useful if you have severe frequency and urgency.
- **Follow a healthy diet.** Obesity is associated with enlarged prostate.
- **Stay active.** Inactivity contributes to urine retention. Even a small amount of exercise can help reduce urinary problems caused by an enlarged prostate.
- **Urinate — and then urinate again a few moments later.** This practice is known as double voiding.
- **Keep warm.** Colder temperatures can cause urine retention and increase the urgency to urinate. (Mayoclinic)

COMPLICATIONS

Complications of an enlarged prostate can include:

- **Sudden inability to urinate (urinary retention).** You might need to have a tube (catheter) inserted into your bladder to drain the urine. Some men with an enlarged prostate need surgery to relieve urinary retention.
- **Urinary tract infections (UTIs).** Inability to fully empty the bladder can increase the risk of infection in your urinary tract. If UTIs occur frequently, you might need surgery to remove part of the prostate.
- **Bladder stones.** These are generally caused by an inability to completely empty the bladder. Bladder stones can cause infection, bladder irritation, blood in the urine and obstruction of urine flow.
- **Bladder damage.** A bladder that hasn't emptied completely can stretch and weaken over time. As a result, the muscular wall of the bladder no longer contracts properly, making it harder to fully empty your bladder.
- **Kidney damage.** Pressure in the bladder from urinary retention can directly damage the kidneys or allow bladder infections to reach the kidneys.

UNANI CONCEPT OF BPH

In Unani Medicine BPH has been translated as *Izam Ghudda-e- Mazi*. Unani pathy too has description of disease and the treatment in its resource books. The description is in different ways. At some places, it has been described in symptomatic form while at other places it has been considered as a disease.

The disease has different names in Unani literature like Waram-e-unq-e-masana (swelling of the neck of urinary bladder), Insidad-e-mujra-e-masana (obstruction of the outlet of the urinary bladder) or Symptomatic description.

Many causes too has been described regarding the disease

Now it is confirmed that the disease is because of the hypertrophy of prostate gland. Though the name of the gland is not there.

Currently available treatment options for the management of BPH include medications (to reduce the amount of prostatic tissue and increase the urinary flow) and surgery. The adverse events following the treatment for BPH include headache, dizziness, hypotension, fatigue, reduced libido, impotence, breast tenderness and enlargement, oligospermia and the need for re-treatment. Due to these limitations, there is a need of drugs which are safe and effective. In Unani various single and compund drugs are used for the management of BPH.

SINGLE DRUGS

Gokhru (Tribulus terristris)

The fruit is, antiinflammatory, aphrodisiac,, demulcent, diuretic, galactagogue,, lithotriptic, Useful in urinary disorders such as painful micturition, incontinence of urine, dysuria, urolithiasis, cystitis, calculus affections, and benign prostatic hypertrophy(BPH).

Varuna (Crataeva nurvala)

Bark of Varuna is diuretic (finds application in urinary disorders, including urolithiasis, prostatic hypertrophy, neurogenic bladder and urinary infections; uterine andgastro-intestinal problems). Juice of the bark is given to women after childbirth. Extract of root bark, mixed with honey, is applied to scrofulous enlargements of glands. Whole plant powder—cholinergic in smooth muscles including urinary bladder.

It helps people who suffer from incontinence by strengthening the bladder muscles. It has also been used in the treatment of BPH.

Basahri Booti (Aerva lanata)

The Actions of Basahri Booti are Anticalculus, diuretic, demulcent, anthelmintic, antidiarrhoeal, Anticholerin. Root is used in strangury. A decoction of the plant is used in catarrh of bladder.

The plant contains palmitic acid, beta-sitosterol and alpha-amyrin. Many scientific studies have been indicated that Basahari Booti is beneficial in BPH.

Punarnawa (Boerhavia diffusa)

A plant with uses in the Ayurvedic system, including the treatment of jaundice; recently. it has also been shown to be a source of phytoecdysones. A number of pharmacological actions have been demonstrated for plant extracts including inhibition of increased serum Aminotransferase activity in arthritic animals and an increase in liver ATP phosphohydrolase activity. A study on the whole-plant extract indicated hepatoprotective activity in CCll-induced hepatotoxicity in rats: the extract is considered to be safe and potent antihepatotoxic.

COMPUND DRUGS

Himplasia Tablets 1-2 bd

Jawarish Zarooni sada 5 gm bd

Majoon Dabeed ul ward 5 gm bd

Delhvi's Prostate BH Capsule 1 bd

Prosteez Tablets 2 bd

Itrifal Ghudadi 10 gm hs

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