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Review Article

Benign Prostatic Hyperplasia (BPH) and its Management: A Review of Conventional and Unani Therapeutic Approaches

Anjum Ansari [1], Md Salman [2]*, Firdous Ahmad Najar [3]

[1] Assistant professor, Department of Ilmul Jarahat (Surgery), Jamia Tibbia Deoband, Uttar Pradesh, India

[2] Assistant Professor, Uttaranchal Unani Medical College and Hospital, Department of Ilaj Bit Tadbeer, Nasir Pur Kalan, Uttarakhand

[3] Associate Professor, Department of Ilmul Jarahat (Surgery), National Institute of Unani Medicine, Bengaluru

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*Address for Correspondence:

Md Salman, Assistant Professor, Uttaranchal Unani Medical College and Hospital, Department of Ilaj Bit Tadbeer, Nasir Pur Kalan, Uttarakhand

Abstract

Objective: There are certain clear negative effects linked to traditional therapies for benign prostatic hyperplasia (BPH), such as invasive surgery and 5alpha-reductase inhibitors. On the other hand, there is some evidence that alternative medications are safer and may help individuals with BPH with their sexual dysfunction as well as their quality of life and lower urinary tract symptoms (LUTS). An review of BPH, various approaches to its treatment, and its significance in the Unani system of medicine—one of the alternative medical systems—were the main goals of the current article.

Methods: PubMed, Scopus, Science Direct, Web of Sciences, Google Scholar databases and classical texts of unani medicine were searched for data collection.

Results: BPH, which is classified under the Unani medical system as Waram unuq almathana (bladder neck swelling) and Insidad majra-i-mathana (bladder outlet obstruction), has been treated with herbal remedies for centuries but still needs thorough scientific verification. Notable among the herbs include Linum usitatissimum, Urtica dioica, Tribulus terrestris, and Cucurbita pepo.

Conclusion: For achieving the goal of LUTS-free ageing men, and safer and cost-effective future management of BPH, Unani herbal medicine could hopefully prove beneficial.

Keywords: Prostatomegaly; Warm-e-Ghudda-e-Mazi; Micturition; Unani Medicine

Introduction

Benign Prostatic Hyperplasia (BPH), commonly known as prostate enlargement, is a widespread condition among older men, especially those aged 50 and above. Several other names, including benign prostatic hypertrophy, senile prostate enlargement, adenoma, adenomyoma, and nodular prostatic hyperplasia also refer to this condition.[1]

The condition affects a large percentage of men over 40, and its prevalence increases steadily with age, affecting 90% of men in their 80s[2,3] Lower urinary tract symptoms (LUTS) are caused by prostate enlargement. Previously known as "prostatism," the term "LUTS" was first used during the fourth international consultation on BPH. LUTS are extremely bothersome, interfering with daily routines and negatively impacting quality of life[4,5]

In the Unani System of Medicine, prostate cancer is described using various terms, such as "Warm-e-Ghudda-e-Mazi" and "Usr-i-Bawl". Its symptoms align with conditions like dysuria, urinary retention, and dribbling, characterized by narrow stream, urgency, and incontinence.[6-8]

According to Unani physicians, the urethra may get compressed due to Warm-i-Aza-i-Mujawira (inflammation/swelling of nearby organs), which would hinder the flow of urine.[9-10] Hesitancy, intermittent voiding, reduced stream, incomplete emptying, and post-void leaking are some of the symptoms of Benign Prostatic Hyperplasia (BPH), a disorder in which an enlarged prostate compresses the prostatic urethra.

The primary cause of swelling (Auram) and inflammation of any Azw Ghudadi (Gland) in the body has been identified as the aberrant buildup of Balgham Ghaliz or Mawad-e-Ghaliz (Thick phlegm).[11] Frequency, hesitation, strangury, urgency, and a weak urine stream are its defining characteristics. The patient may have terminal dribbling, straining, and an incomplete bladder emptying sensation. Urinary retention can also be acute or chronic. For generations, Unani doctors have used safe herbal medicines to treat the symptoms of BPH.[11]

According to the traditional Unani literature, many traditional medications and surgical techniques like punching, incision, and puncturing were used in the past to treat the symptoms of prostate enlargement. However, the disease's precise pathology picture was unclear.[12]

Jean Riolan, the younger (1577e1657) first proposed that urine retention might be caused by an enlarged prostate. Nevertheless, even after the discovery, the scientists continued to place little emphasis on prostate growth. Various surgical instruments were invented for this purpose in the late 18th century.Early in the 19th century, it was recognized that merely clearing the obstruction without considering the gland could be lethal to the patient. At this point, scientists became increasingly interested in prostate enlargement, and several medicinal and surgical treatment modalities were developed over time. Furthermore, looking for the finest prostate enlargement treatment has become more important as the average human age rises.[13]

In the 4th worldwide consultation on BPH, the term "prostatism," which was previously used to describe the symptoms of BPH, was declared obsolete and was subsequently replaced by the term "LUTS".[14]

Risk factors

Age

According to the Krimpen and Baltimore longitudinal study of aging, males over 40 years of age showed an increase in prostate volume at a rate of 2.0% to 2.5% annually.[15-16]

Geography

Prostate volume has been observed to differ by area, with Western regions having a greater prostate volume than South-East Asian countries . In a sizable sample of the Indian population, Ganpule et al. showed that the IPSS is higher with a relatively lower prostate volume than in the Western population.[17,18]

Heredity

According to certain research, BPH is inherited in an autosomal dominant manner[(19)]. Early onset of clinical symptoms is associated with greater prostatic volumes in men with positive family historie. The aforementioned risk variables—geography, age, and heredity—are referred to as non-modifiable risk factors, and they are important contributors to the development of BPH.

The metabolic syndrome, obesity, sex hormones, cardiovascular disease, inflammation, and a lack of physical activity, on the other hand, are considered modifiable risk factors for BPH. Newer options for BPH prevention and treatment are made possible by modifiable risk factors.[20]

Etiopathology (Asbab-wa-mahiyate marad)

However, a number of variables are considered modifiable risk factors for BPH, such as metabolic syndrome, obesity, sex hormones, cardiovascular disease, inflammation, and a decrease in physical activity. More recent prospects for BPH prevention and treatment are offered by modifiable risk factors.[20]

Avicenna, a Persian physician and philosopher who lived from 980 to 1037 CE, claimed that this swelling might be either hard (Waram sulb) or hot (Waram harr). In addition to the obstructive urinary symptoms, heated swelling (Waram harr), which is an indication of inflammation (Iltihab), causes hot distemperament (Su'-i-mizaj harr) symptoms such as fever, increased thirst, and burning micturition. Conversely, rigid swelling (Waram sulb), which frequently results from wear and tear or inflammation, obstructs the outlets for both urine and feces, causing constipation, dribbling, dysuria, and anuria.[21]

According to Avicenna, this swelling may encroach on the bladder and block its exit, causing urine retention and gradual bladder expansion. Urine flows weakly and narrowly with interruptions due to the bladder's muscles' enlargement and flaccidity.[21]

The swelling at the neck of the bladder has been divided into two categories by Allama Jurjani, a Persian physician who lived from 1041 to 1136 CE: hot swelling (Waram harr) and cold swelling (Waram barid). He asserts that humors of hot temperaments, such as blood or yellow bile, are the cause of hot swelling, while humors of cold temperaments, such as phlegm or black bile, are the cause of cold swelling. Additionally, he states that constipation is linked to urinary symptoms in cases of cold swelling (Waram barid).[22]

This explanation supports the similarity between these swelling types—hot and cold—and prostatic hyperplasia and prostatitis in the present era, respectively. Bladder outlet obstruction, or Insidad Majr a-i-Mathana, can be caused by swelling (Waram) or stones.[21,23,24]According to reputable Unani texts like "The Canon of Medicine" and "Treasure of Khwarzamshah," a form of constrictive swelling called "Waram-i-daghit" presses against the bladder's neck or urethra, causing obstruction. This, in turn, causes urinary symptoms like anuria (Ihtibas al-bawl), dribbling (Taqtır al-bawl), and dysuria ('Usr al-bawl).[21,22] Thus, the development of LUTS is unquestionably caused by the Unani diseases mentioned above. The symptoms of BPH are similar to those caused by an obstruction brought on by cold swelling (Waram barid). The humoral hypothesis, which holds that any disruption in the balance of the four humors causes an illness, is the foundation of Unani pathology, as was covered at the beginning of this section. In addition, hormones are classified as either phlegm or white humor.[25] Since the most widely recognized cause of BPH in the modern world is a disturbed testosterone and DHT ratio, or simply a hormonal cause, and because the basic cause of prostatic hyperplasia, according to Unani perspective, is a deranged ratio of humors, particularly the preponderance of phlegm, this strongly supports our view that hormonal disequilibrium is actually a humoral disequilibrium. Consequently, the Greco-Arab understanding aligns with current research on the etiology of BPH.

Furthermore, a comprehensive list of symptoms associated with phlegmatic disorders has been provided in classical Unani medical writings. The most significant of these symptoms include urgency incontinence,

increased micturition or polyurea frequency, and unnaturally white urine (Bawl-i-abyad).[26]

The treatment of lower urinary tract symptoms, or LUTS in the modern era, such as dysuria ('Usr al-bawl), anuria (Ihtibas al-bawl), dribbling (Taqtır albawl), incontinence (Salas al-bawl), and increased micturition frequency and urgency, is also discussed in a large body of classical literature.

As previously stated, bladder outlet obstruction (Insidad majr a-i-math ana) and bladder neck hypertrophy or swelling (Waram unuq al-mathana) are the primary causes of all these symptoms. Here, we provide a brief explanation of them.

Clinical features and management (Alamat wa Ilaj)

1. Dysuria ('Usr al-bawl) Dysuria (pronounced "Usral-bawl"") is a micturition difficulty that results from partial occlusion of the urine outflow.21,[24,27] Hypertrophy of the muscle surrounding the bladder's neck is one of the major reasons of this partial blockage.[28]

2. Anuria (Ihtibas al-bawl)- It is also referred to as Asr al-bawl and is characterized by total urine retention[(21,28)] A unifying therapeutic principle for both dysuria ('Usr al-bawl) and anuria ('Ihtibas al-bawl) is the use of deobstruents/dilators (Mufattihat).[21] When bladder outlet obstruction is complete, diuretics (Mudirrat) are strictly prohibited; they are only advised for incomplete obstruction[(21,28)] These symptoms are said to be effectively relieved by medications such C. pepo (Maghz tukhm-i-kaddu shireen).[29]Linum usitatissimum (Alsi).[30] T. terrestris (Kharkhask), P. anisum (Anisoon), C. sativus (Maghz tukhm-ikhyarein), and M. recutita (Babuna).[31]

Additionally, it was discovered that the majority of these medications have anti-inflammatory, 5alpha-reductase inhibitor, and anti-tumor characteristics[(31)] Catheterization or bladder incision have been recommended in cases of total obstruction[(32,34)] According to Galen, it might be challenging to eradicate anuria in older guys when it results from hard, meaty thickening around the neck of the bladder. [27]

3. Urine incontinence (Salas al-bawl) -Incontinence is defined as the uncontrollable flow of pee, or the passage of urine against one's will (Salas al-bawl). The bladder muscles overswell and become weak as a result of urine retention brought on by bladder neck obstruction.

This makes one feel as though their bladder is full and makes them want to micturitate often. Overflow incontinence develops as a result of gradually waning bladder feelings. For this, it is advised to use medications that have a hot temperament and fortify the bladder's muscles and nerves.[21,22]

4. Dribbling of urine (Taqtır al-bawl)- It is considered a transitional condition between diuresis and dysuria.[21] Dribbing (Taqtır) is the repetitive passing of urine in little amounts with defined will and control; incontinence (Salas al-bawl) is the passing of pee in an amount that is not under one's control. The prominent Mughal physician Muhammad Akbar Arzani (1772 CE) stated that all of the same factors that cause dysuria can also cause dribbling. These include bad humors (Akhlat-i-ghaliz), impaired hot or cold temperament (Su'-i-miz aj h arr or b arid), stones in the urinary tract, swelling or extra muscular growth in the urethra or in the neck of the urinary bladder, and other types of bladder outlet obstructions.[22,28]

According to Razi, a Persian scientist who lived from 854 to 925 CE, older persons who have a frigid disposition (Su'-i-miz aj b arid) are more likely to dribble their pee.[24] Dribbling is treated using the same principle as anuria (Ihtibas al-bawl) and dysuria ('Usr al-bawl).[21,24] The idea and understanding of BPH in the conventional and Greco-Arab (Unani) medical systems are clearly illustrated in this debate. It also shows that ancient Unani doctors used a variety of internal and external medications to treat the illness and its symptoms. Although not much has been done to validate these medications, several clinical trials have produced excellent effects.

Diagnosis and evaluation

Before 1980, the only methods used to evaluate patients with BPH or LUTS were a medical history and a physical examination that included a urinalysis and a digital rectal examination. Radiography and a few blood tests were performed to rule out any urinary tract injury or coexisting conditions. Significant advancements in the fields of diagnosis and treatment were place after 1980.

Among these were urodynamic measurements, computed tomography, and ultrasound. The size of the prostate gland and the amount of post-void leftover urine may be precisely measured thanks to ultrasonography. Male patients with voiding issues now routinely have their serum prostate-specific antigen measured.

The most accurate measure for tracking BPH patients, determining the severity of the condition, and organizing treatment is the American Urological Association Symptom Index (AUA-SI), often known as IPSS[(35)] The routine use of AUA-SI or IPSS in the clinical evaluation of suspected BPH patients has been suggested by the World Health Organization, the American Urologic Association, and the European Association of Urology in their worldwide consultations on urologic disease.[36,37]

Watchful waiting is advised when symptoms are modest (IPSS <8), but a treatment plan must be developed when symptoms are moderate to severe (IPSS ≥8), and surgical intervention is required in the event of complications. Digital rectal examination should be utilized to evaluate the shape, symmetry, firmness, and nodular character of an enlarged prostate, despite its many drawbacks.

Although invasive methods, such as pressure flow studies or formal urodynamic examinations, are useful for identifying obstructions at the urinary bladder's neck, they are optional and required if the patient has significant symptoms or surgery is selected for management. [38,39,40] Due to the low occurrence of lesions in these patients, upper urinary tract imaging with computed tomography or intravenous urography is rarely recommended.

Management

In reality, watchful waiting is used when BPH symptoms are light or moderate but not disturbing, while a treatment plan is used when symptoms are moderate to severe and causing the patient anguish.[38,41] BPH can be treated with either a medication or surgical approach.

The doctor and patient decide on a treatment plan based on mutual understanding and necessity. Before 1990, the only recognized treatment for BPH was surgery, specifically a prostatectomy. Prostate transurethral incision and, subsequently, transurethral resection (TURP) were widely used treatments for BPH.

The use of medical intervention has grown in popularity recently, leading to significant advancements in the treatment of BPH. In medical therapy, alpha-adrenergic antagonists, phos phodiesterase type 5 inhibitors, beta adrenergic agonists, antimuscarinics, 5alpha-reductase inhibitors, vasopressin analogs, and phytotherapeutics are used.[38,37,42] Alpha adrenergic antagonists and 5alpha-reductase inhibitors are the most often prescribed medications for LUTS linked to BPH, and TURP is the most often performed surgical procedure for the same condition. These therapy approaches have some related adverse effects even though they are very effective in relieving both some LUTS and QoL.

Erectile dysfunction, libido loss, and ejaculatory disorders are among the adverse effects that patients find most problematic. Notable minimally invasive methods for treating BPH include water vapor thermal therapy-Rezum (NxThera, Maple Grove, MN, USA), transurethral microwave thermotherapy, transurethral needle ablation, transurethral vaporization of the prostate, interstitial laser coagulation, prostatic urethral lift, laser enucleation, Aquablation, and prostate artery embolization.[38,37,42]

However, the majority of these methods either have greater retreatment rates than TURP or have no evidence of their effectiveness. For this reason, TURP is still regarded as the best surgical procedure for treating BPH. Absolute ethanol injection, a temporary implanted nitinol device, intraprostatic botulinum toxin injection, and histotripsy are other innovative interventions that are not yet advised as routine therapy.[42,43]

Alternative medicines for the management of BPH

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In the modern era, specialists recommend concentrating on disease prevention to protect against its harmful consequences and the side effects of medications used to treat it(44) Herbal remedies work well for both preventing and treating mild to moderate BPH problems, and they are far safer than synthetic ones.

In Argentina, Japan, Korea, and Western Europe, Crenilton, a medication made from rye grass pollen extract, is a registered pharmaceutical product. Crenilton reduces general urological symptoms and is well tolerated, based on existing data.[45]

In a similar vein, Saxifrage tablets made from Saxifraga stolo nifera extract significantly increase prostate volume, urine flow rate, and quality of life. The most potent 5alpha-reductase inhibitor activity has been demonstrated by Ganoderma lucidum extract.[45]

In the United States, saw palmetto is a popular phytomedicine for enlarged prostates. Urtica dioica and Pygeum africanum were found to have significant potential for reducing BPH symptoms.[46] BPH and its symptoms were found to be considerably improved by homeopathic constitutional medicines such as Thuja, Hydrangea, Conium, Sulphur, Lyco podium, Iodeum, Pulsatilla, Mercurius solubilis, Baryta carbonica, Natrum muriaticum, Lyssin, Tuberculinum, Cal carea carbonica, Lachesis, Gelsemium, Carcinosin, and Staph ysagria, as well as by organopathic remedies like Sabal serrulata, Hydrangea, Chimaphilla, Solidago, Senecio, Tri ticum, Ferrum picricum, and Picricum acidum.[47]

In Ayurveda,

For a long time, BPH and LUTS patients have been prescribed Gokshura (Tribulus terrestris Linn), Varuna (Cra taeva religiosa), and Kshaaras (alkaline salts made from the ash of some medicinal plants). The same is true for Varunadi vati (Crataeva nurvala), Gor akhmundi (Sphaeranthus hirtus), white Chandan (Santalum album), Shatavari (Asparagus racemosus), and Kachnar guggulu.[45]

In Unani,

Banadiqul bazoor and other polyherbal formulations containing Kharkhask (T. terrestris), Maghz tukhm-i-kaddu shireen (Cucurbita pepo), Babuna (Matricaria recutita), Alsi (Linum usitatissimum), Anisoon (Pimpinella anisum), and Khayareen (Cucumis sativus) have been found to relieve the symptoms and improve the quality of life of BPH patients.[48] Additionally, taking pumpkin seed and flaxseed individually has been shown to provide advantages.[49,50]

Additionally, acupuncture improves QoL, BPH symptoms, and prostate health.[51]Alternative treatments for BPH are becoming more and more popular, which may also be due to their capacity to improve sexual function. The majority of these treatments and botanicals relieve erectile dysfunction and boost libido and sexual desire.

Despite the promising benefits of alternative medicine in improving BPH, its associated symptoms, and QoL, a complete scientific validation is still lacking. Oral administration of Joshanda (decoction) of Badranjboya (Nepeta ruderalis Ham.) 10.5gm and Badiyan (Foeniculum vulgare Gaertn.) 10.5gm along with Gulqand Asli 35gm in the morning[16,17] Oral administration of Safoof (Powder) of Ustukhudus (Lavandula stoechas Linn) in a dose of 1gm with 12gm Of Itrifal Saghir, followed by administration of Joshanda

(decoction) of Gul-i-Khatmi (Flower of Althae officinalis Linn.) 3gm., Mawiz Munaqqa (Vitis vinefera Linn.) 10 pices, Tukhm-e-Kasni (seed of Cichorium intybus Linn.) 6gm. Mixed with 12ml of honey and sprinkled with 6gm of Asphol (Plantago ovata Forsk). Abzan (Sitz bath) with Joshanda (decoction) of Babuna(Matricaria chamomilla Linn.), Shibit (Anethum sowa Roxb.), Bekh-e-Khatmi (Root) (Pistacia lentiscus Linn.) each 4.5 to 7.5 gm in quantity.[17,18] .Some compound drugs are also beneficial for BPH like Itrifal Ghudadi.[17] 5gm twice a day. Habb-i-Ayarij[5] 2 pills twice a day. Itrifal Saghir[17] 5-10gm at bed time. Sharbat Dinar[16] 10-20ml after every meal. Banadiq-ul-Bazur 2 pills thrice a day, Arq-i-Mako[16] 125ml twice a day. Habb-i-Hindi[16] 2 pills thrice a day. Roghan-i-Gul.[18] Roghan-i-Khasak and Roghan-i-Babuna[18] Local application on pubic region.

Conclusion

The thorough examination of BPH in contemporary medicine and its recognition in the Unani medical system enlightens the Unani classical medical community about the disease and its management. The conversation also reveals a tight relationship between the two medical systems' perceptions of disease.

This promotes the identification and verification of medicinal herbs and other natural remedies for BPH and its related symptoms. The weight of conventional medications and the need for surgery with its various potential adverse effects will be lessened by releasing natural therapies.

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