BENIGN PROSTATIC HYPERPLASIA

CASE DEFINITION

Benign prostatic hyperplasia (BPH), also called benign enlargement of the prostate (BEP), or benign prostatic hypertrophy, is a noncancerous enlargement of the prostate gland. The enlarged prostate may compress the urinary tube (urethra), which courses through the center of the prostate, impeding the flow of urine from the bladder through the urethra to the outside. It is a histological diagnosis associated with unregulated proliferation of connective tissue, smooth muscle and glandular epithelium within the prostatic transition zone.1 It is a common cause of significant lower urinary tract symptoms in men and is the most common cause of bladder outflow obstruction (BOO) in men > 70 years of age.2

INCIDENCE

BPH is a common problem that affects the quality of life in approximately one third of men older than 50 years. BPH is histologically evident in up to 90% of men by age 85 years. Worldwide, approximately 30 million men have symptoms related to BPH. It tends to be more severe and progressive in African-American men because of the higher testosterone levels, 5-alpha-reductase activity, androgen receptor expression, and growth factor activity in this population.3

Few epidemiological studies conducted on BPH patients from India suggest it as the most common pathological condition with an incidence of about 93.3%.4,5

AETIOLOGY/ RISK FACTORS

Two broad categories of risk factors associated with BPH are identified6:

Non-modifiable factors

- **Age:** prevalence of BPH rises markedly with age
- **Geography:** Lower prostate volumes have been observed in men from Southeast Asia compared to western populations
- **Genetics:** An autosomal dominant pattern of inheritance is suggested.

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Modifiable factors

- **Sex steroid hormones:** Androgens (testosterone; especially dihydrotestosterone (DHT) and estrogen are known to result in prostate enlargement
- **Obesity and physical activity:** Increased adiposity and decreased physical activity is associated with increased prostatic volume.
- Presence of metabolic syndrome and diabetes
- Other factors like smoking, diet and socio economic status

**DIAGNOSIS**

**Clinical presentation**

Initial symptoms of BPH include difficulty in starting to urinate and a feeling of incomplete urination. The symptoms can be understood as irritative and obstructive.²,⁷

**Irritative:**

- Increased frequency
- Nocturnal urgency
- Urge incontinence

**Obstructive:**

- Hesitancy
- Decreased flow of urine
- Dribbling
- Straining
- Feeling of incomplete emptying of bladder
- Prolonged urination
- Urinary retention

**Natural history of disease**

BPH can be a progressive disease, especially if left untreated. Clinical endpoints of progression for BPH include the development of more severe symptoms like recurrent UTI, bladder stones, more severe bladder outlet obstruction, acute/chronic urinary retention, bladder dysfunction manifested by incomplete emptying or detrusor instability, urosepsis, incontinence, chronic renal insufficiency and hematuria.⁸

**Investigations², ³, ⁷**

1. **Digital rectal examination:** to assess the prostate size and contour; presence of nodules and areas suggestive of malignancy.

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⁸Lepor H. Pathophysiology, Epidemiology, and Natural History of Benign Prostatic Hyperplasia. Rev Urol. 2004; 6(suppl 9):S3-S10
2. **Ultrasonography**: Ultrasonography (abdominal, renal, transrectal) and intravenous urography are useful for helping to determine bladder and prostate size and the degree of hydronephrosis (if any) in patients with urinary retention or signs of renal insufficiency.

3. **Total Prostate-specific antigen (PSA)**: The normal values should be less than 4 nanogram /ml depending on age(if PSA concentration >10.0 ng/mL, the probability of cancer is high)

4. **Intravenous pyelogram with post voiding film**

5. **Uro-flowmetry**: is done electronically to determine bladder obstruction and speed of the urine flow. The values more than 15ml per second and voiding volume of 150 ml or more is considered to be normal.

6. **PVR urine volume** –One of the important tests for urinary incontinence. Normally, about 50 ml or less of urine is left after urination; more than 200ml is a definite sign of abnormalities.

7. Other extended tests include: Urethrocystoscopy, Urine analysis, Urine culture, Blood analysis for electrolytes, blood urea nitrogen (BUN), and creatinine, Renal function Test

**COMPLICATIONS**

In general, BPH progresses slowly. However, condition might be complicate due to:

- **Bladder outlet obstruction resulting in**: Acute retention; Inability to pass urine; Suprapubic constant, dull aching pain; Increased voiding pressure
- **Chronic retention resulting in**: Overflow incontinence; enuresis and renal insufficiency
- **Impaired Bladder emptying resulting in**: Urinary infection and calculi
- **Features of uremia resulting in**: Headache; fits; drowsiness

**DIFFERENTIAL DIAGNOSIS**

- Neurogenic bladder
- Prostatitis
- Bladder cancer
- Prostate cancer
- Cystitis
- Urinary tract infection

**RED FLAG**

- Acute retention: inability to pass urine
- Chronic retention
- Overflow incontinence
- Hematuria
- Uremia
ASSESSMENT AND EVALUATION

- International Prostate Symptom Score (IPSS)\textsuperscript{9}
- American Urological Association Symptom Index (AUA-SI)\textsuperscript{10}
- BPH Impact Index\textsuperscript{10}

MANAGEMENT

BPH management has been broadly categorized into three types.\textsuperscript{11} They are watchful waiting, medicinal management and ultimate is surgery when the patient fails to respond medical treatment.

\textit{Watchful waiting}: As long as the symptoms are mild and are not causing any change in the day to day activities, wait and watch approach with regular checkup is recommended. It is appropriate in patients with mild to moderate IPSS symptom score. Lifestyle alterations to manage the symptoms of BPH include\textsuperscript{7}
- decreasing fluid intake before bedtime,
- moderating the consumption of alcohol and caffeine-containing products, and
- Following a timed voiding schedule.
- practicing muscle strengthening exercise: Kegel exercises (pelvic exercises)

\textit{Medicinal management}: If the symptoms are troublesome medicinal aid is required. The aim of treatment of BPH is to improve symptoms, relieve obstruction, improve bladder emptying, prevent UTI’s and avoid renal insult.

In homoeopathy, observational studies\textsuperscript{12,13}, case series\textsuperscript{14} and reports\textsuperscript{15,16} in the past throw light on its usefulness in BPH. Experiences of many physicians have also shown that

\textsuperscript{9} Royal United Hospital bath. NHS. International Prostate Symptom Score (IPSS) [Internet] [cited 2016 Mar 23]. Available at http://www.ruh.nhs.uk/patients/Urology/documents/patient_leaflets/Form_IPSS.pdf
\textsuperscript{11} Dhingra N, Bhagwat D. Benign prostatic hyperplasia: An overview of existing treatment Indian J Pharmacol. Feb 2011; 43(1): 6–12
\textsuperscript{16} Gupta G, Gupta N, Singh V, Chaudhary M, Singh M. Evidence based study on cases of Benign Prostatic Hyperplasia in response to homeopathic drugs. The Homeopathic Heritage 2006; 31(7): 31-41
Homoeopathic medicines can improve distressing symptoms of BPH: relieve obstruction, as well as improve bladder emptying to the relief of the patient.

Homoeopathic literature\textsuperscript{17,18,19,20,21,22,23,24} contains references to many medicines for BPH. These include our well known polychrest remedies, some organopathic remedies and other remedies with their specific indications which, when found well indicated in a case possess no less power to cure the patient as our more commonly prescribed polychrests. Organopathic remedies may find their use in cases with symptoms not pointing to any other medicine clearly. Few examples with their indications are: \textit{Hydrangea arborescens}: enlarged prostate with great thirst; white amorphous salts in the urine; enlarged prostate with residual urine and renal stone; \textit{Triticum repens}: enlarged prostate; strangury, pyelitis; \textit{Acid picricum}: prostatic hypertrophy, in cases not too far advanced; \textit{Digitalis}: senile hypertrophy of prostate with marked cardiac symptoms; \textit{Populus tremuloides}: Enlarged prostate with residual urine; severe tenesmus, dysuria scalding, urine contains mucus and pus, pain behind the pubis at the end of micturition.

The indications of few important remedies are given below. However, the presenting totality of symptoms indicative of any medicine in the homoeopathic \textit{Materia Medica} shall always be the sole guide for every individual case.

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<th>S no.</th>
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<tr>
<td>1.</td>
<td>\textit{Pulsatilla nigricans}</td>
<td>Indicated in cases of prostate enlargement with pain and tenesmus in urinating, worse lying on back. Useful in acute prostatitis. After micturition, spasmodic pains in the neck of the bladder, extending to pelvis and thighs. Involuntary micturition at night, while coughing or passing flatus. Prostatic troubles with small and flattened feces. Hot patient; marked changeability; thirstlessness with great dryness of mouth. Desire for cheese, pungent things, highly seasoned food; aversion to fat, warm foods and drinks; tongue coated yellow or whitish; worse towards evening</td>
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\textsuperscript{17}Zandvoort RV Complete Repertory 3.0.(English) 5.1 Repertory by, MacRepertory for Windows, Kent Homoeopathic Associates, USA.
\textsuperscript{18}Murphy R. Homoeopathic Medical Repertory. Third Edition. Lotus Health Publishers; 2005
\textsuperscript{20}Allen HC. Allen's Keynotes- Rearranged and classified with leading remedies of the material medica and bowel nosodes. 10th Reprint edition, Jan 2006
\textsuperscript{24}Allen T.F. Handbook of Materia Medica and Homeopathic Therapeutics First edition 1889. Philadelphia: F E Boericke
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<td>1.</td>
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<td>and in the warm room, always better in open air; by slow, gentle motion and cold applications. Desire company, mild, gentle, affectionate, yielding, weeping disposition.</td>
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<td>2.</td>
<td><strong>Conium maculatum</strong></td>
<td>Useful in enlargement and induration of prostate which causes intermittent urination in old people and much difficulty in voiding urine. Urine flows and stops; pressure on the bladder, flow of urine attended with violent stitches; worse when walking, better when sitting, standing. Frequent, and sometimes involuntary emission of urine at night. Progressive debility, weakness of body and mind, Indolent, indifferent, easily overstrained, shy and fear being alone. There is early senility, hasty, clumsy movements and trembling. Cancerous and scrofulous persons with enlarged glands; rigid muscular fiber. Chilly; perspire during sleep and desire salt.</td>
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<td>3.</td>
<td><strong>Sabal serrulata</strong></td>
<td>Of unquestioned value in prostatic enlargement and urinary difficulties. Cystitis with prostatic hypertrophy. Discharge of prostatic fluid with enlargement of the gland. Difficult urination and smarting and burning in urethra. Patient is despondent, irritable, sympathy seems to anger him, apathy and indifference, general and sexual debility, atrophy of testes and loss of sexual power; fear of going to sleep.</td>
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<td>4.</td>
<td><strong>Calcarea carbonica</strong></td>
<td>Useful in cases where symptoms of irritable bladder predominate. Stitching cutting pain in urethra with ineffectual desire to urinate. Painful urination, urine with peculiar fetid odor but usually clear with white sediment, bloody. Indicated in torpid, fair, flabby, anaemic persons with large head, distended abdomen and tendency to lymphatic glandular enlargement; fearful, shy, timid, slow and sluggish; who are chilly and take cold easily; sweat profusely on head while sleeping or mostly on back of head and neck, or chest and upper part of body; have sour smelling discharges; longing for fresh air, cold sweaty extremities, desire for eggs, sweets and aversion to meat and milk. Feel better in every way when constipated.</td>
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<td>5.</td>
<td><strong>Baryta carbonica</strong></td>
<td>Suitable in diseases of old men, with enlarged prostate and indurated testes. Urgent inclination to pass urine; which can hardly be retained. Renewed desire after urinating, followed by dribbling when walking. Every time patient urinates, his piles come down. Burning in urethra while urinating.</td>
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<td>6.</td>
<td>Chimaphila umbellata</td>
<td>Owing to its property of increasing the renal secretion, indicated in prostate enlargement showing symptoms of acute prostatitis, with retention of urine and a feeling of a ball in perineum when sitting; from sitting on cold stones or pavements. Scanty urine, loaded with ropy or muco-purulent, sediment. Burning and scalding during micturition, and straining afterwards. Unable to urinate without standing with feet wide apart and body inclined forward. Suitable for persons who are nervous, cannot bear anything, hot, irritable, restless, melancholic; have a faint feeling and are weak.</td>
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<td>8.</td>
<td>Thuja occidentalis</td>
<td>The remedy acts vigorously on the genito-urinary tract. Indicated in prostatic enlargement with pain and burning felt near neck of bladder, with frequent and urgent desire to urinate. Must urinate many a times before the bladder is emptied. Sensation as of urine trickling in urethra after urinating; severe cutting after urination. Chilly patient; with illusions &amp; fixed ideas. These persons suffer from ill-effects of vaccination; predominantly left sided complaints; unhealthy skin with tendency for warty growths; sycotic pains, worse at rest, warmth &amp; damp humid atmosphere and better in dry weather; oily/greasy sweat, face &amp; stool; perspiration on uncovered parts.</td>
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<td>09.</td>
<td>Ferrum picricum</td>
<td>Indicated in hypertrophy of the prostate; frequent micturition at night, with full feeling and pressure in rectum. Smarting at neck of bladder and penis. Retention of urine. It is considered to complete the action of other medicines. Acts best in dark-haired patients, bilious looking, plethoric, with sensitive livers; warts and epithelial growths. Aggravation from fatigue is a leading indication: overpowering effects of fatigue.</td>
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<td>10.</td>
<td>Sulphur</td>
<td>The remedy is indicated in painful ineffectual efforts to urinate, with retention. Frequent micturition, especially at night. Burning in urethra during micturition, lasts long after. Mucus and pus in urine; parts sore over which it passes. Hot patient; kicks off the cloth at night; dirty, filthy, does not</td>
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<td>want to be washed; lean, thin, stoop-shouldered patient who walk and sit stooping; prone to skin affections, venous congestions; especially of portal system; have a very weak and faint feeling about 11 a.m. and must have something to eat; desires sweets; have burning heat of palms and soles especially at night; aversion to being washed; worse from standing at night; when the best selected remedy fails to improve; restless, quick tempered.</td>
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<td>13.</td>
<td><strong>Lycopodium clavatum</strong></td>
<td>The remedy finds its usefulness in hypertrophy of the prostate when there is pain in back before urinating which ceases after flow; flow of urine slow, must strain. Polyuria during the night. Heavy red sediment in urine. Adapted to persons suffering from deep-seated, progressive, chronic diseases who are intellectually keen but physically weak, dominating, avaricious, greedy, miserly and lack self-confidence. They have mostly right sided complaints (or symptoms shift from right to left); emaciation of the upper part of the body &amp; semi-dropsical lower part; pale complexion, dirty, sallow with deep furrows; look prematurely old and are predisposed to lung and hepatic affections. They have a tendency for flatulent dyspepsia; worse from 4 to 8 pm, lack of vital heat and desire warm food, drinks &amp; sweets.</td>
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ALGORITHM OF TREATMENT PROCESS

Diagnosis through clinical signs and symptoms:
- Increased frequency
- Nocturnal urgency
- Urge incontinence
- Hesitancy
- Decreased flow of urine
- Dribbling
- Straining
- Feeling of incomplete emptying of bladder
- Prolonged urination
- Urinary retention

Examination:
- USG
- Digital rectal examination
- Laboratory tests: urine analysis etc.
  - PSA > 4 ng/ml

Evaluation:
- IPSS/AUASI

AUA/IPSS symptom score

Mild

Moderate to severe

Symptoms don’t interfere with daily life

Symptoms interfere with daily life

Watchful waiting

Start homoeopathic treatment and Advice for general management

Follow up assessment clinically and investigations

BHP with obstructive symptoms causing:
- Kidney damage
- Bladder stone
- Haematuria
- Urinary retention

Refer for standard care

No clinical improvement/worsening general condition
Acute retention; Inability to pass urine; Supra-pubic constant, dull aching pain; chronic retention; overflow incontinence, uremia.

Refer for Standard care

Incomplete improvement

Reassess the case and give appropriate homoeopathic

Complete improvement

Stop treatment

Updated on 10th Jul, 16