Basic Information

- Benign prostatic hyperplasia (BPH) is a non-cancerous enlargement of the prostate that restricts the flow of urine from the bladder.
- There are two growth periods in a man’s life when the prostate enlarges. The first occurs early in puberty, when the prostate doubles in size. The second begins around age 40. It is usually following this second growth phase that symptoms of BPH appear.
- In BPH, the prostate becomes enlarged to the point that it presses against the urethra like a clamp on a garden hose. The bladder wall becomes thicker and irritable, and begins to contract even when it contains only small amounts of urine. These contractions cause the bladder to weaken, so it does not empty completely.
- While a definitive cause of BPH has not been identified, factors that contribute to the condition include aging, hormones and growth factors.
- BPH is diagnosed by simple means such as a digital rectal exam, the Prostate Specific Antigen (PSA) blood test, a urine flow study or ultrasound.

Key Statistics

- BPH is the most common disorder of the prostate\(^1\) and is the most common diagnosis by urologists for male patients age 45-74\(^2\).
- Half of all men in their 50s and 80 percent in their 80s, have some symptoms of BPH.\(^3\)
- Approximately 7.6 million men over age 50 in the United States are candidates for treatment of BPH\(^4,5\):
  - \(\Rightarrow\) 2.6 million age 50-59
  - \(\Rightarrow\) 2.6 million age 60 to 69
  - \(\Rightarrow\) 2.4 million age 70 to 79
- In the United States alone, 375,000 hospital stays each year involve a diagnosis of BPH.\(^3\)
- In eight out of 10 cases, symptoms relating to changes or problems with urination – including frequent urination, urgency, leaking or dribbling, and a hesitant, interrupted or weak urine stream – suggest the presence of BPH.\(^3\)
- There is no correlation between BPH and prostate cancer.\(^3\)
Impact on Quality of Life

- While BPH is not life threatening, it reduces quality of life by causing discomfort, inconvenience, sleep disruption and embarrassment.
- BPH can turn urination into a round-the-clock and agonizing experience.
- Men with BPH describe being embarrassed at public urinals by their dribbling stream, and feeling trapped by needing to stay close to a bathroom at all times – limiting their freedom to live a normal life.
- If left untreated, BPH can lead to other serious medical conditions including urinary tract infections, bladder and kidney damage, bladder stones and incontinence.

Symptoms of BPH include:
- Frequent need to urinate
- Sudden need to urinate
- Interrupted sleep due to need to urinate at night
- Weak, variable or dribbling stream
- Need to strain or push bladder to urinate
- Difficulty beginning urination
- Pain or burning during urination
- Sensation that bladder is not completely empty after urination

Treatment Options

Drug Therapy: Useful for treating the symptoms of BPH, but patients must remain on the medication for the rest of their lives or symptoms will return.

⇒ Alpha Blockers. These medications – including terazosin (Hytrin®), doxazosin (Cardura®), tamsulosin (Flomax®) and prazosin (Minipress®) – act by relaxing the smooth muscle of the prostate and bladder neck to improve urine flow and to reduce bladder outlet obstruction.
  • Adverse effects may include: dizziness, fatigue, nasal congestion and abnormal ejaculation.  

⇒ Anti-androgens. These medications – including finasteride (Proscar®) – inhibit production of the hormone DHT, which is involved with prostate enlargement.
  • Best for men whose prostates are enlarged primarily due to hormone-stimulated overgrowth of glandular tissue.
  • May take up to six months to notice change in symptoms, and more than 25 percent of men do not respond at all.
  • Adverse effects may include impotence, decreased libido and decreased ejaculate volume.

Nonsurgical Treatment

⇒ Transurethral Needle Ablation (TUNA) Therapy. Delivers low-level radiofrequency energy through the urethra to destroy a well-defined region of the enlarged prostate. Shields protect the urethra from heat damage.
  • The TUNA System is indicated for the treatment of symptoms due to urinary outflow obstruction secondary to benign prostatic hyperplasia (BPH) in men over the age of 50 with prostate sizes between 20 and 50 cc.
The TUNA System improves urine flow and relieves symptoms with significantly fewer side effects when compared to Transurethral Resection of the Prostate (TURP).  

- Few side effects and adverse events.  
- Can be performed on an outpatient basis.  
- Can be performed using local anesthesia.  
- Forty percent of patients were catheterized in the original clinical study. In later studies 6-15 percent of patients were catheterized.  
- Adverse effects may include obstruction, bleeding, pain/discomfort, urgency, frequency and urinary tract infection.  
- BPH symptoms begin improving when the body absorbs the treated tissue, usually within two to six weeks.

Surgical Treatment

⇒ Transurethral Resection of the Prostate (TURP). Surgical method in which a retoscope is inserted into the urethra and enlarged tissues are cut away using an electrical loop.

- The most common surgical treatment.  
- Requires general anesthesia and two to four days in the hospital.  
- Post-procedure catheterization required.  
- Adverse effects may include: impotence, retrograde ejaculation, incontinence, infection and blood loss.

References

6 Medtronic TUNA System User Guide.  
9 Ibid.  

*Hytrin is a registered trademark of Abbott Laboratories  
Cardura is a registered trademark of Roerig  
Flomax is a registered trademark of Boehringer Ingelheim  
Minipress is a registered trademark of Pfizer  
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