When You Gotta Go, but Can’t: Management of Benign Prostatic Hypertrophy (BPH)

Florida A & M University
College of Pharmacy and Pharmaceutical Sciences
42nd Annual Clinical Symposium

Wayne A. Sampson, M.D.
Cross Creek Medical
Tallahassee, FL
Learning Objectives:

• Discuss the prevalence of prostate disorders and the general concerns of patients regarding their prostate health
• Identify common symptoms associated with BPH
• List the advantages and disadvantages of varied treatment options for BPH and how to counsel patients with BPH with regard to treatment options
• Review ways that management of prostate health and counseling can fit into a Pharmacist's practice.
Prostate Anatomy

- Transition Zone
  - BPH Develops
- Peripheral Zone
- Central Zone
- Anterior Zone
Benign Prostatic Hypertrophy (BPH) Definition:

• BPH reflects the proliferation of epithelial and smooth muscle cells within the transition zone of the prostate.

• The term has been used to describe a constellation of voiding symptoms that occurs in men with aging.
Benign Prostatic Hypertrophy (BPH) Symptoms:

• Obstructive in nature as the hyperplastic tissue leads to a narrowing of the prostatic urethra
• Decreased force of stream, hesitancy, straining, incomplete bladder emptying & nocturia
Benign Prostatic Hypertrophy (BPH) Symptoms:

- Irritative symptoms include: urinary frequency, urgency & occasional dysuria
- Lower Urinary Tract Symptoms (LUTS): preferred term to describe the complex of obstructive & irritative urinary symptoms that occur in both sexes.
Benign Prostatic Hypertrophy (BPH) Symptoms:

• Voiding dysfunction in the aging male may be due to a variety of factors including changes in bladder, prostate and urethra but in many men, these symptoms are due to BPH

• BPH is one of the most frequent diagnosis leading to a urology referral
Benign Prostatic Hypertrophy (BPH)

Prevalence:

• It begins to develop before age 30 with -
  • 10% of men having histological evidence of BPH by age 40
  • 50% of men by age 60
  • 80% of men will develop BPH
  • 30% will receive treatment for BPH

• Significantly impacts patient’s quality of life
• Substantial burden on the healthcare system
Benign Prostatic Hypertrophy (BPH) Diagnosis:

Objective Parameters:
• Delineation of prostate size, measurement of urinary flow rate and delineation of post-void residual volume

Subjective Parameters:
• Several instruments are available to quantify the severity of LUTS, but most clinicians use the American Urological Association Symptom Scale Index (AUASA) also known as the International Prostatic Symptom Score (IPSS)
Benign Prostatic Hypertrophy (BPH) Diagnosis: IPPS 0 - 35

Symptoms severity relates to urinary frequency, nocturia, weak urinary stream, hesitancy, incomplete bladder emptying and urinary urgency is assessed as well as effects on quality of life.

- **Mild Symptoms:**
  - 0 - 7 Score
- **Moderate Symptoms:**
  - 7 -15 Score
- **Severe Symptoms:** > 15
Benign Prostatic Hypertrophy (BPH) Treatment:

- **Drug Therapy:** Medical therapy attempts to shrink or stop the growth of the prostate or open the urethral closure within the prostate without use of surgery.
5-Alpha Reductase Inhibitors (5-ARIs)
- Decrease production of the hormone dihydrotestosterone (DHT) which is responsible for growth of the acinar glands of the prostate
- Finasteride
- Dutasteride
  - Either prevents progression of growth or actually shrink the prostate in some men
Benign Prostatic Hypertrophy (BPH) Treatment:

- Alpha 1 - Adrenergic Receptor Blocker
  - Relax the smooth muscle of the prostate and bladder neck to improve urine flow & reduce bladder outlet obstruction
  - Terazosin*
  - Doxazosin*
  - Tamsulosin
  - Alfuzosin

*developed as blood pressure agents
Benign Prostatic Hypertrophy (BPH) Treatment:

• Clinical data shows combination therapy reduces risk of BPH progression by 67% compared to 30% for Doxazosin alone and 34% for Finasteride alone.
Benign Prostatic Hypertrophy (BPH)

Conventional Surgical Therapy:

- Transurethral Resection of the Prostate (TURP/TUIP) -
  - 90% of all prostate surgeries for BPH
- Surgical “open” prostatectomy
- Transurethral laser surgery
Benign Prostatic Hypertrophy (BPH) Minimally Invasive Therapies:

- Transurethral microwave procedure
- Transurethral needle ablation
- Water-induced thermotherapy
- High intensity focus ultrasound
Benign Prostatic Hyperplasia and Prostate Specific Antigen (PSA)

• Produced by benign & malignant prostate
• PSA is the enzyme responsible for liquefaction of the seminal fluid after ejaculation
• PSA may also be transitory elevated in cases of prosthetic inflammation (prostatitis) or infection and after prostatic manipulation by biopsy
• Routine DRE usually has little effect on serum PSA
Summary

• The prostate comprises of several regions and zones - 2 zones of interest are the peripheral zone where most cases of cancer arise and the transitional zone where BPH arise.

• The diagnosis of voiding dysfunction due to BPH is made based on both subjective and objective findings on clinical evaluation.
Summary

• Medical treatment of BPH involves the use of agents that relaxes muscular stromal tissue of the bladder neck and prostatic urethra and reduction in the acinar glandular volume of the prostate through reduced DHT production

• Indications for surgical intervention for BPH includes urinary retention, gross hematuria, bladder stones and urinary tract infection
Summary

• Serum PSA increases over time with both BPH and prostate cancer which makes it a difficult diagnostic marker for cancer alone.
References


