

*Tikrit University*

*College of Nursing*

*Basic Nursing Sciences*



**Second Year - 2023-2024**

**Adult Nursing**

**Urinary Disorders**

*Prepared by:*

*Nariman Mohammed Ahmed*

# Prostatic Hyperplasia

## What is Benign Prostatic Hyperplasia?

Benign prostatic hyperplasia (BPH) is one of the most common diseases in aging men.

- **Benign prostatic hyperplasia (BPH)** is the enlargement, or hypertrophy, of the prostate gland.
- The prostate gland enlarges, extending upward into the bladder and obstructing the outflow of urine. Incomplete emptying of the bladder and urinary retention leading to urinary stasis may result in hydronephrosis, , and urinary tract infections (UTIs).
- The cause is not well understood, but evidence suggests hormonal involvement.
- BPH is common in men older than 40 years.
- It can cause bothersome lower urinary tract symptoms that affect quality of life by interfering with daily normal activities and sleep pattern.

## Pathophysiology

The pathophysiology of BPH is as follows:

- **Resistance.** BPH is a result of complex interactions involving resistance in the prostatic urethra to mechanical and spastic effects.
- **Obstruction.** The hypertrophied lobes of the prostate may obstruct the bladder neck or urethra, causing incomplete emptying of the bladder and urinary retention.
- **Dilation.** Gradual dilation of the ureters and kidneys can occur.

## Causes

The cause of BPH is not well understood, but testicular androgens have been implicated.

- **Elevated estrogen levels.** BPH generally occurs when men have elevated estrogen levels and when prostate tissue becomes more sensitive.

- **Smoking.** Smoking increases the risk of acquiring BPH.
- **Reduced activity level.** A sedentary lifestyle could also lead to the development of BPH.
- **Western diet.** A diet high in animal fat and protein and refined carbohydrates while low in fiber predisposes a man to BPH.

## Clinical Manifestations

BPH may or may not lead to lower urinary tract symptoms; if symptoms occur, they may range from mild to severe.

- **Urinary frequency.** Frequent trips to the bathroom to urinate may be an early sign of a developing BPH.
- **Urinary urgency.** This is the sudden and **immediate** urge to urinate.
- **Nocturia.** Urinating frequently **at night** is called nocturia.
- **Weak urinary stream.** Decreased and intermittent force of stream is a sign of BPH.
- **Dribbling urine.** Urine dribbles out after urination.
- **Straining.** There is presence of abdominal straining upon urination.

## Assessment and Diagnostic Findings

There are several ways to diagnose benign prostatic hypertrophy.

- **Digital rectal examination (DRE).** A DRE often reveals a **large, rubbery, and nontender** prostate gland.
- **Urinalysis.** A urinalysis to screen for **hematuria** and **UTI** is recommended.
- **Prostate specific antigen levels.** A PSA level is obtained if the patient has at least a 10-year life expectancy and for whom knowledge of the presence of prostate cancer would change management.
- **Urinalysis:** Color: Yellow, dark brown, dark or bright red (bloody); appearance may be cloudy. pH 7 or greater (suggests infection); bacteria, WBCs, RBCs may be present microscopically.

- **Urine culture:** May reveal *Staphylococcus aureus*, *Proteus*, *Klebsiella*, *Pseudomonas*, or *Escherichia coli*.
- **Urine cytology:** To rule out bladder cancer.
- **BUN:** Elevated if renal function is compromised.
- **Prostate-specific antigen (PSA):** Glycoprotein contained in the cytoplasm of prostatic epithelial cells, detected in the blood of adult men. Level is greatly increased in prostatic cancer but can also be elevated in BPH. Note: Research suggests elevated PSA levels with a low percentage of free PSA are more likely associated with prostate cancer than with a benign prostate condition.
- **WBC:** May be more than 11,000/mm<sup>3</sup>, indicating infection if patient is not immunosuppressed.
- **Uroflowmetry:** Assesses degree of bladder obstruction.
- **IVP with post voiding film:** Shows delayed emptying of bladder, varying degrees of urinary tract obstruction, and presence of prostatic enlargement, bladder diverticula, and abnormal thickening of bladder muscle.

## Medical Management

The goals of medical management of BPH are to improve the quality of life and treatment depends on the severity of symptoms.

- **Catheterization.** If a patient is admitted on an emergency basis because he is unable to void, he is immediately catheterized.
- **Cystostomy.** An incision into the bladder may be needed to provide urinary drainage.

## Pharmacologic Management

- **Alpha-adrenergic blockers** (eg, alfuzosin, terazosin), which relax the smooth muscle of the bladder neck and prostate, and 5alpha reductase inhibitors.
- Hormonal manipulation with **antiandrogen agents** Use of **phytotherapeutic agents** and other dietary supplements .

## Surgical Management

Other treatment options include minimally invasive procedures and resection of the prostate gland.

- **Transurethral microwave heat treatment.** This therapy involves the application of **heat** to prostatic tissue.
- **Transurethral needle ablation (TUNA).** TUNA uses low-level **radio frequencies** delivered by thin needles placed in the prostate gland to produce localized heat that destroys prostate tissue while sparing other tissues.
- **Transurethral resection of the prostate (TURP).** TURP involves the surgical removal of the inner portion of the prostate through an endoscope inserted through the urethra.
- **Open prostatectomy.** Open prostatectomy involves the surgical removal of the inner portion of the prostate via a suprapubic, retropubic, or perineal approach for large prostate glands.

## Nursing Management

Nursing management of a patient with BPH includes the following:

### Nursing Assessment

Nursing assessment focuses on the health history of the patient.

- **Health history.** The health history focuses on the urinary tract, previous surgical procedures, general health issues, family history of prostate diseases, and fitness for possible surgery.
- **Physical assessment.** Physical assessment includes digital rectal examination.

### Nursing Diagnosis

Based on the assessment data, the appropriate nursing diagnoses for a patient with BPH are:

- **Urinary retention** related to obstruction in the bladder neck or urethra.

- **Acute pain** related to bladder distention.
- **Anxiety** related to the surgical procedure.

### **Nursing Care Planning & Goals**

The goals for a patient with BPH include:

- Relieve acute urinary retention.
- Promote comfort.
- Prevent complications.
- Help patient deal with psychosocial concerns.
- Provide information about disease process/prognosis and treatment needs.

### **Nursing Interventions**

Preoperative and postoperative nursing interventions for a patient with BPH are as follows:

- **Reduce anxiety.** The nurse should familiarize the patient with the preoperative and postoperative routines and initiate measures to reduce anxiety.
- **Relieve discomfort.** Bed rest and analgesics are prescribed if a patient experiences discomfort.
- **Provide instruction.** Before the surgery, the nurse reviews with the patient the anatomy of the affected structures and their function in relation to the urinary and reproductive systems.
- **Maintain fluid balance.** Fluid balance should be restored to normal.

### **Evaluation**

- Reduced anxiety.
- Reduced level of pain.
- Maintained fluid volume balance postoperatively.

- Absence of complications.

## **Discharge and Home Care Guidelines**

The patient and the family require instructions about how to promote recovery.

- **Instructions.** The nurse provides written and oral instructions about the need to monitor urinary output and strategies to prevent complications.
- **Urinary control.** The nurse should teach the patient exercises to regain urinary control.
- **Avoid Valsalva maneuver.** The patient should avoid activities that produce Valsalva maneuver like straining and heavy lifting.
- **Avoid bladder discomfort.** The patient should be taught to avoid spicy foods, alcohol, and coffee.
- **Increase fluids.** The nurse should instruct the patient to drink enough fluids.

## **Bladder Tumors**

### ***Data Base***

#### **A Etiology and pathophysiology**

##### **1. Staging:**

a. found deep in lining of bladder, no spread to bladder muscle

b.: spread to bladder muscle

c.: spread to tissue surrounding bladder, may involve prostate in men and vagina in women

d.: extends to wall of abdomen/pelvis, may involve lymph nodes and parts of body far away from bladder (e.g., lungs)

**2. Common sites of metastasis:** lymph nodes, bone, liver, lungs

**3. Risk factors:** smoking, radiation, exposure to certain chemicals over

prolonged time, schistosomiasis

4. Most frequent in men older than 50 years of age

## **B Clinical findings**

1. Subjective: frequency and urgency of urination, dysuria
2. Objective: painless hematuria, direct visualization by cystoscopic examination with bladder washings

## **C Therapeutic interventions**

### **1. Surgical intervention**

- a. Resection of tumor
- b. Cystectomy may be partial (results in a decreased capacity) or radical (requires urinary diversion)

### **2. Radiation therapy;**

may be done to shrink tumor before surgery; may be external or internal

### **3. Chemotherapy**

a. Superficial bladder cancer: intravesical chemotherapy via catheter through urethra; liquid drugs are instilled for several hours once a week for several weeks or several times monthly up to a year.

b. Later stage bladder cancer: systemic chemotherapy

### **4. Intravesical biological therapy:** bacille Calmette Guérin (BCG)

solution contains live weakened bacteria that stimulate immune response to destroy cancer cells in bladder; once a week for 6 weeks

## ***Nursing Care of Clients with Bladder Tumors***

### **Assessment/Analysis**

1. Abdomen for bladder distention

## 2. Urine for hematuria

### **Planning/Implementation**

1. Allow time to verbalize fears about surgery, cancer, death, and body image alterations
2. Assess color and amount of urine (at least 50 mL/hr); maintain patency of drainage system; turn and position to promote urine flow
3. Prepare bowel preoperatively with laxatives, antibiotics, and enemas as prescribed
4. Care associated with ileal conduit
  - a. *Cleanse skin around stoma and under drainage bag with soap and water; inspect for excoriation*
  - b. *Dry skin, apply skin adhesive to area around stoma, apply collection device*
  - c. *Maintain urinary drainage bag; ensure it is fitted snugly around but not touching stoma*
  - d. *Encourage self-care; teach to change appliance*
5. Care associated with continent ileal urinary reservoir:
  - a. *Teach to insert catheter through nipple valve to drain urine*
  - b. *Teach to drain urine at prescribed times to prevent absorption of metabolic wastes from urine as well as urine reflux into ureters*
6. Expect variety of psychologic manifestations (e.g., denial, anger, depression)
7. Arrange visit from member of ostomy club
8. Support client's natural defenses (e.g., encourage intake of foods rich in immune-stimulating nutrients, especially vitamins A, C, and E, and selenium)