

**Name: Ezeoke Chioma S.**

Level:300

Matric no: 18/mhs02/204 Course: Med-surg nursing

Assignment: Discuss the different disorders of prostate gland, the aetiology, therapeutic intervention, nursing intervention and client education.

### 1. Benign Prostatic Hyperplasia

#### Definition

- 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, hydroureter, and urinary tract infections (UTIs).

#### Symptoms

The severity of symptoms in people who have prostate gland enlargement varies, but symptoms tend to gradually worsen over time. Common signs and symptoms of BPH include:

- Frequent or urgent need to urinate
  - Increased frequency of urination at night (nocturia)
  - Difficulty starting urination
  - Weak urine stream or a stream that stops and starts
  - Dribbling at the end of urination
  - Inability to completely empty the bladder
- Less common signs and symptoms include:
- Urinary tract infection
  - Inability to urinate
  - Blood in the urine

#### Causes

BPH is considered a normal condition of male aging, and many men older than 80 years have BPH symptoms. Although the exact cause is unknown, changes in male sex hormones that come with aging may be a factor. Any family history of prostate problems or any abnormalities with your testicles may raise your risk of BPH. Men who've had their testicles removed at a young age don't develop BPH. Also diabetes & heart disease, smoking, elevated estrogen level, reduced activity level and western diet can also cause BPH.

#### Complications

Complications of an enlarged prostate can include:

- Sudden inability to urinate (urinary retention)
- Urinary tract infections (UTIs)
- Bladder stones
- Bladder damage
- Kidney damage

#### Therapeutic intervention

Medication is the most common treatment for mild to moderate symptoms of prostate enlargement. The options include:

- Alpha blockers. These medications relax bladder neck muscles and muscle fibers in the prostate, making urination easier. Alpha blockers — which include alfuzosin (Uroxatral), doxazosin (Cardura), tamsulosin (Flomax) and silodosin (Rapaflo) — usually work quickly in men with relatively small prostates. Side effects might include dizziness and a harmless condition in which semen goes back into the bladder instead of out the tip of the penis (retrograde ejaculation).

- 5-alpha reductase inhibitors. These medications shrink your prostate by preventing hormonal changes that cause prostate growth. These medications — which include finasteride (Proscar) and dutasteride (Avodart) — might take up to six months to be effective. Side effects include retrograde ejaculation.
- Combination drug therapy. Your doctor might recommend taking an alpha blocker and a 5-alpha reductase inhibitor at the same time if either medication alone isn't effective.
- Tadalafil (Cialis). Studies suggest this medication, which is often used to treat erectile dysfunction, can also treat prostate enlargement.

### **Minimally invasive or surgical therapy**

Minimally invasive or surgical therapy might be recommended if:

- Your symptoms are moderate to severe
- Medication hasn't relieved your symptoms
- You have a urinary tract obstruction, bladder stones, blood in your urine or kidney problems
- You prefer definitive treatment

There are several types of minimally invasive or surgical therapies.

#### **Transurethral resection of the prostate (TURP)**

A lighted scope is inserted into your urethra, and the surgeon removes all but the outer part of the prostate. TURP generally relieves symptoms quickly, and most men have a stronger urine flow soon after the procedure. After TURP you might temporarily need a catheter to drain your bladder.

#### **Transurethral incision of the prostate (TUIP)**

A lighted scope is inserted into your urethra, and the surgeon makes one or two small cuts in the prostate gland — making it easier for urine to pass through the urethra. This surgery might be an option if you have a small or moderately enlarged prostate gland, especially if you have health problems that make other surgeries too risky.

#### **Transurethral microwave thermotherapy (TUMT)**

Your doctor inserts a special electrode through your urethra into your prostate area. Microwave energy from the electrode destroys the inner portion of the enlarged prostate gland, shrinking it and easing urine flow. TUMT might only partially relieve your symptoms, and it might take some time before you notice results. This surgery is generally used only on small prostates in special circumstances because re-treatment might be necessary.

#### **Transurethral needle ablation (TUNA)**

In this procedure, a scope is passed into your urethra, allowing your doctor to place needles into your prostate gland. Radio waves pass through the needles, heating and destroying excess prostate tissue that's blocking urine flow. TUNA may be an option in select cases, but the procedure is rarely used any longer.

### **Laser therapy**

A high-energy laser destroys or removes overgrown prostate tissue. Laser therapy generally relieves symptoms right away and has a lower risk of side effects than does nonlaser surgery. Laser therapy might be used in men who shouldn't have other prostate procedures because they take blood-thinning medications.

The options for laser therapy include:

- Ablative procedures. These procedures vaporize obstructive prostate tissue to increase urine flow. Examples include photoselective vaporization of the prostate (PVP) and holmium laser ablation of the prostate (HoLAP). Ablative procedures can cause irritating urinary symptoms after surgery, so in rare situations another resection procedure might be needed at some point.
- Enucleative procedures. Enucleative procedures, such as holmium laser enucleation of the prostate (HoLEP), generally remove all the prostate tissue blocking urine flow and prevent regrowth of tissue. The removed tissue can be examined for prostate cancer and other conditions. These procedures are similar to open prostatectomy.

#### **Prostatic urethral lift (PUL)**

Special tags are used to compress the sides of the prostate to increase the flow of urine. The procedure might be recommended if you have lower urinary tract symptoms. PUL also might be offered to some men concerned

about treatment impact on erectile dysfunction and ejaculatory problems, since the effect on ejaculation and sexual function is much lower with PUL than it is with TURP.

### **Embolization**

In this experimental procedure, the blood supply to or from the prostate is selectively blocked, causing the prostate to decrease in size. Longterm data on the effectiveness of this procedure aren't available.

### **Open or robot-assisted prostatectomy**

The surgeon makes an incision in your lower abdomen to reach the prostate and remove tissue. Open prostatectomy is generally done if you have a very large prostate, bladder damage or other complicating factors. The surgery usually requires a short hospital stay and is associated with a higher risk of needing a blood transfusion. **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.

### **Client Teaching**

Explain the symptoms and complication of BPH (a) Urinary retention

((b) Cystitis (c) Increase in irritative voiding symptoms by encouraging patient to report the symptoms.

- Teach patient to do Kegel (Perineal exercise) after surgery to help gain control of voiding.
  - Contract perineal muscle for 10-15 secs, then relax. Repeat 15 times.
- Do 15 sets per day
- Advice and tell patient to avoid sexual intercourse, straining at stool, heavy lifting and long periods of sitting for 6 to 8 weeks after surgery until Prostatic fossa is healed.
- Advice follow-up visits as urethra stricture may occur and regrowth of prostate is possible.

#### 2. Prostatitis Definition

Prostatitis is swelling and inflammation of the prostate gland, a walnut-sized gland situated directly below the bladder in men. The prostate gland produces fluid (semen) that nourishes and transports Sperm.

### **Symptoms**

Prostatitis signs and symptoms depend on the cause. They can include:

- Pain or burning sensation when urinating (dysuria)
- Difficulty urinating, such as dribbling or hesitant urination
- Frequent urination, particularly at night (nocturia)
- Urgent need to urinate
- Cloudy urine
- Blood in the urine
- Pain in the abdomen, groin or lower back
- Pain in the area between the scrotum and rectum (perineum)
- Pain or discomfort of the penis or testicles
- Painful ejaculation
- Flu-like signs and symptoms (with bacterial prostatitis)

### **PROSTATITIS CLASSIFICATION**

There are 4 classifications namely:

#### 1. Category I (acute bacterial prostatitis):

In this type of prostatitis, patients have prostatic and systemic severe symptoms indicating acute infection.

Bacteria can be isolated in these cases.

## 2. Category II (chronic bacterial prostatitis);

In this type of prostatitis, patient may or may not have prostate infection systems. However, most patients will have recurrent urinary tract infections caused by the same bacteria that is causing the prostatitis.

## 3. Category III (chronic prostatitis/chronic pelvic pain syndrome):

In this type of prostatitis, patients will suffer from both prostatic pain, and symptoms related to voiding, with absence of infection symptoms.

## 4. Category IV (asymptomatic inflammatory prostatitis):

In this type of prostatitis, patients have no symptoms of prostate or urinary tract infection, despite the presence of actual inflammation in the prostate.

### **Causes**

Acute bacterial prostatitis is often caused by common strains of bacteria. The infection can start when bacteria in urine leak into your prostate. Antibiotics are used to treat the infection. If they don't eliminate the bacteria prostatitis might recur or be difficult to treat (chronic bacterial prostatitis).

Nerve damage in the lower urinary tract, which can be caused by surgery or trauma to the area, might contribute to prostatitis not caused by a bacterial infection. In many cases of prostatitis, the cause isn't identified.

### **Treatment**

The treatment for prostatitis depends on the type you have.

#### **Acute Bacterial Prostatitis**

For acute bacterial prostatitis, you'll need to take antibiotics for at least 14 days. Occasionally some men may be admitted to the hospital and given antibiotics through an IV (into your vein). If you have trouble urinating, your health care provider may use a tube (a catheter) to drain your bladder. Almost all infections that start quickly are cured with this treatment. Sometimes, you'll need to stay on the antibiotics for as long as four weeks. If one antibiotic doesn't work, your doctor will try others. **Chronic Bacterial Prostatitis**

For chronic bacterial prostatitis, you'll need to take antibiotics longer, most often for 4 to 12 weeks. About three in four of chronic bacterial prostatitis cases clear up with this treatment. Sometimes the symptoms return and antibiotics are needed again. For cases that don't react to this treatment, longterm, low dose antibiotics are used to ease the symptoms.

#### **CP/CPPS**

Because the exact cause of CP/CPPS is not known, some doctors may give antibiotics even if your tests don't prove that bacteria are the cause. Other times anti-inflammatory or medicines which reduce painful nerves will be tried. **Antibiotics**

If an antibiotic is prescribed, it is important to take your medicine at the same time(s) each day and to take all of them, even if you start to feel better. **Alpha-blockers**

Some health care providers order drugs called alpha-blockers to help you feel better. These drugs help relax the muscles around the prostate and the base of the bladder.

#### **Anti-inflammatory agents**

Nonsteroidal anti-inflammatory drugs (NSAIDs) might make you more comfortable. These are pain medicines (aspirin, ibuprofen, etc.) and muscle relaxers.

#### **Prostatic Massage**

Prostatic massages can help ease pressure in the prostate. It is done by draining fluid from the prostate ducts while specialized physiotherapy may relax the nearby muscles.

## **Biofeedback**

Biofeedback uses signals from monitors to teach you to control your body and how it reacts. This includes learning to relax certain muscles. It is done with a specialist to help you reduce tension in your pelvic floor.

## **Surgery**

In rare cases, surgery on either the urethra or prostate may be needed. There must be an exact problem with the body, such as scar tissue in the urethra, for prostatitis surgery to work.

### **Nursing Intervention**

1. Encourage fluid intake of up to 2000 to 3000 mL per day unless contraindicated.
2. Prepare for bladder drainage via urinary catheterization for distention.
3. Avoid administering medications that cause urinary retention, such as anticholinergics, antihistamines, and decongestants.
4. Administer finasteride (proscar) as prescribed to shrink the prostate gland and improve urine flow.
5. Prepare the client for surgery as prescribed.

**PATIENT TEACHING.** Instruct patients about the need to maintain a high fluid intake (at least 2 L/day) to ensure adequate urine output. Teach the patient to monitor urinary output for 4 to 6 weeks after surgery to ensure adequacy in volume of elimination combined with a decrease in volume of retention.

### 3. Prostate cancer

Prostate cancer is cancer that occurs in the prostate — a small walnut-shaped gland in men that produces the seminal fluid that nourishes and transports sperm.

## **Symptoms**

Prostate cancer may cause no signs or symptoms in its early stages. Prostate cancer that's more advanced may cause signs and symptoms such as:

- Trouble urinating
- Decreased force in the stream of urine
- Blood in semen
- Discomfort in the pelvic area
- Bone pain
- Erectile dysfunction

## **Causes**

It's not clear what causes prostate cancer.

Doctors know that prostate cancer begins when some cells in your prostate become abnormal. Mutations in the abnormal cells' DNA cause the cells to grow and divide more rapidly than normal cells do. The abnormal cells continue living, when other cells would die. The accumulating abnormal cells form a tumor that can grow to invade nearby tissue. Some abnormal cells can also break off and spread (metastasize) to other parts of the body.

### **Therapeutic intervention**

Surgery for prostate cancer involves removing the prostate gland (radical prostatectomy), some surrounding tissue and a few lymph nodes. Radical prostatectomy can be performed in several ways:

- Using a robot to assist with surgery. During robot-assisted surgery, the instruments are attached to a mechanical device (robot) and inserted into your abdomen through several small incisions. The surgeon sits at a console and uses hand controls to guide the robot to move the instruments. Robotic prostatectomy may allow the surgeon to make more-precise movements with surgical tools than is possible with traditional minimally invasive surgery.

- Making an incision in your abdomen. During retropubic surgery, the prostate gland is taken out through an incision in your lower abdomen. Discuss with your doctor which type of surgery is best for your specific situation.

Radical prostatectomy carries a risk of urinary incontinence and erectile dysfunction. Ask your doctor to explain the risks you may face based on your situation, the type of procedure you select, your age, your body type and your overall health.

### **Radiation therapy**

Radiation therapy uses high-powered energy to kill cancer cells.

Prostate cancer radiation therapy can be delivered in two ways:

- Radiation that comes from outside of your body (external beam radiation). During external beam radiation therapy, you lie on a table while a machine moves around your body, directing highpowered energy beams, such as X-rays or protons, to your prostate cancer. You typically undergo external beam radiation treatments five days a week for several weeks.
- Radiation placed inside your body (brachytherapy).

Brachytherapy involves placing many rice-sized radioactive seeds in your prostate tissue. The radioactive seeds deliver a low dose of radiation over a long period of time. Your doctor implants the radioactive seeds in your prostate using a needle guided by ultrasound images. The implanted seeds eventually stop emitting radiation and don't need to be removed. Side effects of radiation therapy can include painful, frequent or urgent urination, as well as rectal symptoms such as loose stools or pain when passing stools. Erectile dysfunction can also occur.

### **Hormone therapy**

Hormone therapy is treatment to stop your body from producing the male hormone testosterone. Prostate cancer cells rely on testosterone to help them grow. Cutting off the supply of testosterone may cause cancer cells to die or to grow more slowly.

Hormone therapy options include:

- Medications that stop your body from producing testosterone. Medications known as luteinizing hormone-releasing hormone (LH-RH) agonists prevent the testicles from receiving messages to make testosterone. Drugs typically used in this type of hormone therapy include leuprolide (Lupron, Eligard), goserelin (Zoladex), triptorelin (Trelstar) and histrelin (Vantas). Other drugs sometimes used include ketoconazole and abiraterone (Zytiga).
- Medications that block testosterone from reaching cancer cells. Medications known as anti-androgens prevent testosterone from reaching your cancer cells. Examples include bicalutamide (Casodex), nilutamide (Nilandron) and flutamide. The drug enzalutamide (Xtandi) may be an option when other hormone therapies are no longer effective.
- Surgery to remove the testicles (orchiectomy). Removing your testicles reduces testosterone levels in your body.

Hormone therapy is used in men with advanced prostate cancer to shrink the cancer and slow the growth of tumors. In men with earlystage prostate cancer, hormone therapy may be used to shrink tumors before radiation therapy, which can increase the likelihood that radiation therapy will be successful.

Side effects of hormone therapy may include erectile dysfunction, hot flashes, loss of bone mass, reduced sex drive and weight gain.

### **Freezing prostate tissue**

Cryosurgery or cryoablation involves freezing tissue to kill cancer cells. During cryosurgery for prostate cancer, small needles are inserted in the prostate using ultrasound images as guidance. A very cold gas is placed in the needles, which causes the surrounding tissue to freeze. A second gas is then placed in the needles to reheat the tissue. The cycles of freezing and thawing kill the cancer cells and some surrounding healthy tissue.

Initial attempts to use cryosurgery for prostate cancer resulted in high complication rates and unacceptable side effects. However, newer technologies have lowered complication rates, improved cancer control and made the procedure easier to tolerate. Cryosurgery is more frequently used as a salvage therapy for men who haven't been helped by radiation therapy.

## Chemotherapy

Chemotherapy uses drugs to kill rapidly growing cells, including cancer cells. Chemotherapy can be administered through a vein in your arm, in pill form or both.

Chemotherapy may be a treatment option for men with prostate cancer that has spread to remote body locations. Chemotherapy may also be an option for cancers that don't respond to hormone therapy. **Biological therapy**

Permanent prostate brachytherapy

Biological therapy (immunotherapy) uses your body's immune system to fight cancer cells. One type of biological therapy called sipuleucel-T (Provenge) has been developed to treat advanced, recurrent prostate cancer.

This treatment takes some of your own immune cells, genetically engineers them in a laboratory to fight prostate cancer, then injects the cells back into your body through a vein. Some men do respond to this therapy with some improvement in their cancer, but the treatment is very expensive and requires multiple treatments.

Nursing intervention

• Educate patients and caregivers about treatment options, benefits and risks

- Monitor treatment response
- Patient advocate
- Consent
- Care coordination
- Point of contact/liaison with other clinical services
- Arrange follow-up appointments and monitor blood results Client Education
- Teach kegel exercise
- Encourage patient to continue with activities of daily living
- Teach follow up care
- Have vitamin D level checked. A low level is associated with more aggressive prostate cancer.
- Eat a completely or mostly plant-based diet, avoid all processed foods, and limit sugar intake, which fuels cancer growth. Studies show that excess fat, primarily red meat and high-fat dairy, stimulates prostate cancer growth.
- Avoid trans fatty acids, which are known to promote cancer growth; these are high in margarines and fried and baked foods.
- Exercise to maintain overall health and weight. Being overweight or obese is a factor in prostate cancer development and progression.
- Manage stress, which can jeopardize the immune system and promote cancer progression, perhaps by interfering with neuroendocrine mechanisms involved in control of reproduction.
- Avoid environmental exposure to household and personal care products.