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**COURSE**: Medical Surgical Nursing(NSC 306)

**ASSIGNMENT**

Read on the reproductive system and summarize:

1. The different disorders of the prostate gland
2. Their aetiologies
3. Thearaeutic interventions as well as surgeries
4. The nursing care and client teaching and different condition

**1.Benign Prostrate Hyperplasia**

This is a noncancerous increase in size of the prostrate gland. Symptoms may include frequent urination, trouble starting to urinate, loss of bladder control.

Etiologies :

1. Hormones : A metabolite of testosterone named as dihydrotestosterone (DHT) is a crucial mediator of prostatic growth. DHT is synthesized in the prostate gland from the circulating testosterone by the enzyme 5-alpha-reductase. DHT sticks to the androgen receptors and triggers a release of growth factors which are mitogenic to epithelial cells, initiating multiplication of cells ultimately leading to an enlarged prostate . The importance of DHT in causing nodular hyperplasia is supported by clinical observations in which an inhibitor of 5α-reductase such as finasteride is given to men with this condition. Therapy with a 5α-reductase inhibitor markedly reduces the DHT content of the prostate and, in turn, reduces prostate volume and BPH symptoms. Testosterone promotes prostate cell proliferation, but relatively low levels of serum testosterone are found in patients with BPH. Thereby patientswith low level of testesterone are at risk of having BPH. Age is the most common factor for prostate complications.
2. Family history: If you have any family history of prostate complications, you should consult the doctor for the further prevention steps or regular checkups for prostate complications. 10-20% cases of prostate complications are due to inherited mutations.

Therapeutic interventions as well as surgeries

Medications

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; alpha blocker and a 5-alpha reductase inhibitor are used at the same time if either medication alone isn't effective.

Surgeries

Surgeries may be minimally invasive or full depending on the symptoms. Some surgeries include;

1. 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.

1. 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.

1. 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.

1. 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.

1. 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.

1. 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 that it is with TURP.

Nursing care and client teaching

Nursing Interventions

Encourage patient to void every 2–4 hr and when urge is note which will help to minimize urinary retention/overdistension of the bladder.

Observe urinary stream, noting size and force and this is useful in evaluating degree of obstruction and choice of intervention.

Have patient document time and amount of each voiding to note diminished urinary output and measure specific gravity as indicated

Encourage oral fluids up to 3000 mL daily, within cardiac tolerance to increase circulating fluid , maintain renal perfusion and flushes kidneys, bladder, and ureters of “sediment and bacteria.

Monitor vital signs closely. Observe for hypertension, peripheral/dependent edema, changes in mentation.

Administer medications as indicated.

**Prostatitis**

There are different types of prostatitis, each has its own set of symptoms and causes. These include:

Acute bacterial prostatitis. Your urinary tract is made up of your kidneys, bladder, and the tubes that pass between them. If bacteria from here finds its way into your prostate, you can get an infection.

Chronic bacterial prostatitis. This is more common in older men. It’s a milder bacterial infection that can linger for several months. Some men get it after they’ve had a urinary tract infection (UTI) or acute bacterial prostatitis

Etiologies

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.

Therapeutic intervention

Prostatitis treatments depend on the underlying cause. They can include:

a.Antibiotics. Taking antibiotics is the most commonly prescribed treatment for prostatitis. Your doctor will choose your medication based on the type of bacteria that might be causing your infection.

b. Alpha blockers. These medications help relax the bladder neck and the muscle fibers where your prostate joins your bladder. This treatment might ease symptoms, such as painful urination.

c. Anti-inflammatory agents. Nonsteroidal anti-inflammatory drugs (NSAIDs) will help to relieve pains associated with the disease.

Surgery : surgery could be done to remove scars to enable easy urination

Nursing care and client teaching

Assess the patient’s ability to cope with a painful, prolonged illness with a high probability of recurrence or chronicity. If the patient has chronic bacterial prostatitis, assess the patient’s and partner’s coping strategies and support systems.

The most important nursing interventions for patients with acute or chronic bacterial prostatitis focus on preventing complications. Monitor for urinary retention; for persistence of fever, perineal pain, or difficulty voiding; and for recurring urinary tract infection. Ensure patient takes enough fluid.

Be sure the patient understands the need to take all prescribed antibiotics. The patient should understand all medications, including the dosage, route, action, and any adverse effects. Remind the patient that the entire course of antibiotics should be completed before stopping the drug.

Instruct the patient to report fever, hematuria, urinary retention, or difficulty voiding. The patient needs to understand the need for prolonged follow-up to avoid recurrence.

If the patient has had surgery or a TURP, teach that urinary dribbling, frequency, and occasional hematuria are not unusual. Explain that the patient will gradually regain urinary control. Remind the patient to avoid heavy lifting, strenuous exercise, or long automobile or plane trips. These situations may place the urinary system under high pressures from bladder distension or abdominal pressure that may lead to bleeding.

**Prostate Cancer**

Prostate cancer is the development of cancer in the prostate, a gland in the male reproductive system.

Etiology

The actual cause of prostrate cancer isn’t known but the risk factors are as follows:

1. Age : as you get older – prostate cancer is most commonly diagnosed in men aged 60–79, if your father or brother has had prostate cancer – your risk will be twice that of other men, if you have a strong family history of breast or ovarian cancer, particularly BRCA1 and BRCA2 gene mutations. While prostate cancer is less common in men under 50, men aged 40–55 are at particular risk of developing significant prostate cancer later in life if their prostate specific antigen (PSA) test results are above the 95th percentile. This means their PSA levels are higher than 95% of men in the same age range.
2. Family history

You may have an inherited gene that increases your risk of prostate cancer if you have:

multiple relatives on the same side of the family (either your mother’s or father’s side) with prostate, breast and/or ovarian cancers, a brother or father diagnosed with prostate cancer before the age of 60.

Therapeutic Intervention as well as surgeries.

The progression of the cancer growth should be monitored and surgeries done when neccessary.

Surgery

1. Radical retropubic prostatectomy

For this open operation, the surgeon makes an incision (cut) in your lower abdomen, from the belly button down to the pubic bone, as shown in the picture below. You will either be under general anesthesia (asleep) or be given spinal or epidural anesthesia (numbing the lower half of the body) along with sedation during the surgery.

1. Laparoscopic radical prostatectomy

For a laparoscopic radical prostatectomy (LRP), the surgeon inserts special long instruments through several small incisions in the abdominal wall to remove the prostate. One of the instruments has a small video camera on the end, which lets the surgeon see inside the body.

1. Transurethral Resection of the Prostrate(TURP)

During this operation, the surgeon removes the inner part of the prostate gland that surrounds the urethra (the tube through which urine leaves the bladder). The skin is not cut with this surgery. An instrument called a resectoscope is passed through the tip of the penis into the urethra to the level of the prostate. Once it is in place, either electricity is passed through a wire to heat it or a laser is used to cut or vaporize the tissue. Spinal anesthesia (which numbs the lower half of your body) or general anesthesia (where you are asleep) is used. After surgery, a catheter (thin, flexible tube) is inserted through the penis and into the bladder. It remains in place for about a day to help urine drain while the prostate heals. You can usually leave the hospital after 1 to 2 days and return to normal activities in 1 to 2 weeks.

The Nursing Care and Client Teaching

1. There may be Impaired Urinary Elimination related to an enlarged prostate and bladder distension therefore nurses should; encourage the patient to urinate every 2-4 hours and when it suddenly felt,   observation of the flow of urine, note the size and strength, percussion / palpation of the suprapubic area, encourage fluid intake to 3000 ml per day, monitor vital signs closely, collaboration in the provision of drugs.
2. There is also possible risk for Infection related to invasive procedures (tools during surgery) therefore nurses should; maintain a sterile catheter system, provide catheter care and give regular antibiotic ointment around the catheter, perform ambulation with dependent drainage bag, observation of wound drainage around suprapubic catheter , replace dressings with frequent (supra incision / retropubic and perineal), cleaning and drying of the skin over time, collaboration in the provision of antibiotics.
3. Nurse should assess the patient's nutritional status, encourage the patient to eat small amounts frequently, so as to prevent nutritional imbalance and weight loss.