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**17/MHS02/ 026**

**Nursing science**

**Medsurg Assignment**

**Questions**

**Summarize the following in maximum of 6 typed pages**

**The different disorders of the prostate gland**

**Their aetiologies**

**The therapeutic interventions as well as surgeries**

**The nursing care and client teaching in the different conditions.**

**The Prostrate Gland**

**Anatomy of the Prostate Gland**

This is a walnut sized gland located between the bladder and the penis. The gland lies just below the neck of the bladder, surrounds the urethra, and is traversed by the ejaculatory duct, a continuation of the vas deferens; produces a secretion that is chemically and physiologically suitable to the needs of the spermatozoa in their passage from the testes.

**Physiology of the prostate gland**

The main function of the prostate gland is to secrete prostate fluid one of the component of the semen. The muscles of the prostate gland also help propel this seminal fluid into the urethra during ejaculation.

**Diagnostic evaluation for the prostate**

**Direct Rectal Examination:** The doctor inserts a lubricated gloved finger into the rectum and feels the prostate. This procedure can sometimes detect an enlarged prostate, lumps or nodules of the prostate cancer or tenderness from prostatitis.

**Prostate Ultrasound (Transrectal Ultrasound):** an ultrasound probe is inserted into the rectum, bringing it close to the prostate. Transrectal ultrasound (TRUS) studies may be performed in patients with abnormalities detected by Direct Rectal Examination or those with elevated Prostate Specific Antigen levels. It is also done with a biopsy to test for prostate cancer.

**Prostate Biopsy:** A needle is inserted into the prostate through the rectum to take out tissue to check for prostate cancer.

**Prostate-specific antigen**: The prostate gland produces a substance known as prostate specific antigen (PSA). It can be measured in a blood specimen, and levels increase with prostate cancer. Many factors can increase PSA levels, including BPH, prostate cancer, and infections of the prostate and urinary tract. PSA levels are measured in Nano grams per milliliter (ng/mL). The range of values considered normal is 0.2 to 4.0 ng/mL. Values over 4.0 are considered elevated. A PSA test, along with DRE, is recommended by the American Cancer Society annually for men at high risk, specifically those with a family history of prostate cancer and for African American men.

**Disorders of the Prostate gland**

**Prostatitis:** Inflammation of the prostate gland.

**Symptoms of prostatitis** may include perinea discomfort, burning, urgency, frequency, and pain with or after ejaculation. Acute bacterial prostatitis may produce sudden fever and chills and perineal, rectal, or low back pain.

**Urinary symptoms,** such as dysuria, frequency, urgency, and nocturia (urination during the night), may occur. Chronic bacterial prostatitis is a major cause of relapsing urinary tract infection in men. Symptoms are usually mild, consisting of frequency, dysuria, and occasionally urethral discharge. High temperature and chills are uncommon.

**Causes:** Acute bacterial prostatitis is often caused by common strains of bacteria. It may start when bacteria carried in urine leaks into the gland. It may also reoccur after treatment or may be difficult to treat.

Other causes include: Immune system disorder, nervous system disorder, injury to the prostate.

**Therapeutic Interventions**

* The goal of therapy for acute bacterial prostatitis is to avoid the complications of abscess formation and septicemia. A broad spectrum antibiotic agent (to which the causative organism is sensitive sensitive) is administered for 10 to 14 days. Intravenous administration of the agent may be necessary to achieve high serum and tissue levels; the agent may be administered at home. The patient is encouraged to remain on bed rest to alleviate symptoms quickly. Comfort is promoted with analgesic agents (to relieve pain), antispasmodic medications and bladder sedatives (to relieve bladder irritability), sit baths (to relieve pain and spasm), and stool softeners (to prevent pain from straining).
* Chronic bacterial prostatitis is difficult to treat because most antibiotics diffuse poorly from the plasma into the prostatic fluid. Nevertheless, antibiotics may be prescribed, including trimethoprim-sulfamethoxazole (TMP-SMZ) or a fluoroquinolone.
* Continuous therapy with low-dose antibiotics to suppress the infection may also be indicated. In addition, treatment for chronic prostatitis may include reducing the retention of prostatic fluid by ejaculation through sexual intercourse or masturbation. Evaluation of sexual partners to reduce the possibility of cross infection. The treatment of nonbacterial prostatitis is directed toward relieving symptoms.

**Nursing Management**

* Administration of prescribed antibiotics
* Provision of comfort measures, including prescribed analgesic agents and sit baths.
* The patient with chronic prostatitis is usually treated on an outpatient basis and needs to be instructed about the importance of continuing antibiotic therapy.

**Teaching Patients Self-Care**

* The nurse instructs the patient to complete the prescribed course of antibiotics.
* If intravenous antibiotics are to be administered at home, the nurse instructs the patient and family about correct and safe administration.
* Hot sits baths (10 to 20 minutes) may be taken several times daily.
* Fluids are encouraged to satisfy thirst but are not “forced” because an effective medication level must be maintained in the urine.
* Foods and liquids that have diuretic action or that increase prostatic secretions such as alcohol, coffee, tea, chocolate, cola, and spices, should be avoided.
* During periods of acute inflammation, sexual arousal and intercourse should be avoided.
* To minimize discomfort, the patient should avoid sitting for long periods. Medical follow-up is necessary for at least 6 months to 1 year because prostatitis caused by the same or different organisms can reoccur.

**BENIGN PROSTATIC HYPERPLASIA (ENLARGED PROSTATE)**

This is the enlargement, or hypertrophy, of the prostate. BPH is one of the most common pathologic conditions in older men.

**Its main cause** is unknown; changes in male sex hormones that come with may be a factor.

**Risk factors**: family history, obesity, erectile dysfunction, type II diabetes.

**Symptoms:** frequent urination trouble starting to urinate, weak stream, inability to urinate, loss of bladder control. BPH can be a progressive disease, especially if left untreated.

**Therapeutic Intervention**

The treatment plan depends on the cause of BPH, the severity of the obstruction, and the patient’s condition. If the patient is admitted on an emergency basis because he cannot void, he is immediately catheterized patient.

Because the hormonal component of BPH has been identified, one method of treatment involves hormonal manipulation with antiandrogen agents, such as finasteride (Proscar). In clinical studies, 5-alpha-reductase inhibitors such as finasteride have been effective in preventing the conversion of testosterone to dihydrotestosterone (DHT). With decreased levels of DHT, suppression of glandular cell activity and decreases in prostate size has been demonstrated. Side effects of these medications include gynecomastia (breast enlargement), erectile dysfunction, and flushing.

**Surgery**

If the medical treatment is not effective, surgery may be performed. These procedures include:

* **Transurethral resection of the prostate [TURP]:** It is thought to be the most effectiveapproach for improving urinary symptoms and urinary flow. However, this procedure may be associated with complications in up to 20% of men which include urethral strictures, urinary incontinence, erectile dysfunction.
* **Photoselective vaporization of the prostate:** common treatment.
* **Open Prostectomy**
* **Transurethral incision of the prostate**
* **Arterial embolization**

This is an endovascular procedure whereby catheter embolic agents are released in the main branches of the prostatic artery. This is done in order to induce a decrease in the size of the prostate gland, thus reducing the urinary symptoms.

* **Transurethral microwave thermotherapy**

An outpatient procedure that is less invasive compared to surgery and involves using microwaves to shrink prostate tissue that is enlarged.

**Nursing Management**

* Administration of medications for pain and relieving urinary retention
* Preparation of patient for surgery if needed.

**Teaching Patient Self Care**

* The nurse educates the patient on the importance of completing his medication.
* The nurse educates the patient on avoiding alcohol or drinks.
* The nurse educates the patient to avoid letting the bladder get too full.

**CANCER OF THE PROSTATE**

Prostate cancer is the most common cancer in men other than non-melanoma skin cancer and the second most common cause of cancer deaths in American men older than 55 years of age.

**Symptoms** usually include difficulty in urination, but sometimes there are no symptoms at all in the early stages.

People may also experience pain in the bones which can occur during urination. Erectile dysfunction is also common, blood in semen.

**Causes:** Although the cause of prostate cancer is unknown, it is known to begin when mutations occur in the prostate cell DNA which causes the cells to divide more rapidly than normal cells. The abnormal cells then accumulate and form a tumor that can grow to invade nearby tissue. Some cells can also break off and spread to other parts of the body.

**Risk factors include**: age, obesity, family history.

**Therapeutic management**

Treatment is based on the stage of the disease and the patient’s age and symptoms. Partin and associates (1997) combined PSA level with the clinical stage and pathologic grade of the tumor to create a nomogram to predict the pathologic stage of localized prostate cancer. This nomogram can be useful in making treatment decisions and predicting treatment outcomes.

**SURGICAL MANAGEMENT**

A radical prostatectomy (removal of the prostate and seminal vesicles) remains the standard surgical procedure for patients who have early-stage, potentially curable disease and a life expectancy of 10 years or more. Sexual impotence follows radical prostatectomy, and 5% to 10% of patients have various degrees of urinary incontinence.

**RADIATION THERAPY**

If prostate cancer is detected in its early stage, the treatment may be curative radiation therapy: either **teletherapy** with a linear accelerator or interstitial irradiation (implantation of radioactive seeds of iodine or palladium), also referred to as **brachytherapy.**

**Teletherapy** involves about 6 to 7 weeks of daily (5 days/week) radiation treatments. Interstitial seed implantation is performed under anesthesia. About 80 to 100 seeds are placed with ultrasound guidance, and the patient returns home after the procedure. Exposure of others to radiation is minimal, but close contact with pregnant women and infants should be avoided for up to 2 months. **Radiation safety guidelines** include straining urine for seeds and using a condom during sexual intercourse for 2 weeks after implantation to catch seeds that may pass through the urethra.

**Side effects,** which usually are transitory, include inflammation of the rectum, bowel, and bladder (proctitis, enteritis, and cystitis) due to their proximity to the prostate and the radiation doses. Irritation of the bladder and urethra from radiation therapy can cause pain with urination and during ejaculation until the irritation subsides. There is a greater preservation of sexual potency, however, with radiation therapy than with surgery. For locally advanced prostate cancer, hormonal treatments before and during radiation therapy are frequently used to improve local control and disease-free survival.

**HORMONAL THERAPY**

Hormonal therapy is one method used to control rather than cure prostate cancer. In the early 1940s, it was determined that most prostate cancers were androgen dependent and could be controlled by androgen withdrawal. Androgens stimulate prostate cancer cells to grow. The main androgens in the body are testosterone and dihydrotestosterone. Lowering androgen levels or stopping them from getting into prostate cancers shrink or grow more slowly for a time.

**Nursing Intervention**

**Preoperative Nursing Interventions**

* Reducing Anxiety
* Relieving Discomfort
* **Providing Instruction**
* Before surgery, the nurse reviews with the patient the anatomy of the affected parts and their function in relation to the urinary and reproductive system, using diagrams and other teaching aids if indicated.
* **Preparing the Patient**
* Elastic compression stockings are applied before surgery and are particularly important for prevention of deep vein thrombosis if the patient is placed in a lithotomy position during surgery. An enema is usually administered at home the evening before surgery or the morning of surgery to prevent postoperative straining, which can induce bleeding.

**Postoperative Nursing Interventions**

* Maintaining Fluid Balance
* Relieving Pain

After a prostatectomy, the patient is assisted to sit and dangle his legs over the side of the bed on the day of surgery.

**Teaching Patients Self-Care**

* The patient and family require instructions about how to manage the drainage system, how to assess for complications, and how to promote recovery
* . Verbal and written instructions are provided about the need to maintain the drainage system and to monitor urinary output, about wound care, and about strategies to prevent complications, such as infection, bleeding, and thrombosis.
* They are informed about signs and symptoms that should be reported to the physician (e.g., blood in urine, decreased urine output, fever, change in wound drainage, calf tenderness). Teaching the following exercises may help the patient regain urinary control:
  + Tense the perineal muscles by pressing the buttocks together; hold this position; relax. This exercise can be performed 10 to 20 times each hour while sitting or standing.
  + Try to interrupt the urinary stream after starting to void; wait a few seconds and then continue to void.
* Perineal exercises should continue until the patient gains full urinary control.
* Lining underwear with absorbent pads can help to minimize embarrassing stains on clothing.
* The urine may be cloudy for several weeks after surgery but should clear as the prostate area heals.
* While the prostatic fossa heals (6 to 8 weeks), the patient should avoid activities that produce **Valsalva** effects (straining at stool, heavy lifting) because this increases venous pressure and may produce hematuria.
* He should avoid long motor trips and strenuous exercise, which increase the tendency to bleed. He should also know that spicy foods, alcohol, and coffee may cause bladder discomfort.
* The patient is cautioned to drink enough fluids to avoid dehydration, which increases the tendency for a blood clot to form and obstruct the flow of urine.

REFERENCE

* BRUNNER AND SUDDARTHS TEXTBOOK, *Assessment and Management of Problems Related to Male Reproductive Processes*, 14TH EDITION, pp 1485.
* *https://www.slideshare.net/mobile/jenetdaniel/nursing-management-of-patient-with-benign-prostate-hyperplasia.*