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**Disorders of the prostate gland**

**1. Prostatitis**

**Prostatitis** is an inflammation of the prostate gland caused by infectious agents or other conditions (e.g., urethral stricture, prostatic hyperplasia).

 Prostatitis may be divided into several categories:

* Bacterial Prostatitis may be acute or chronic; the responsible organism usually is *E. coli* or another gram-negative rod.
* Chronic a bacterial Prostatitis, despite sharing symptomatology with chronic bacterial prostatitis, is of unknown etiology and does not respond to antibiotics
* Granulomatous Prostatitis has a multifactorial etiology, including infectious and noninfectious causes.

 *E. coli* is the most commonly isolated organism. Microorganisms are usually carried to the prostate from the urethra. Prostatitis may be classified as bacterial or abacterial, depending on the presence or absence of microorganisms in the prostatic fluid.

Signs and symptoms include: perineal discomfort, burning urgency, sudden fever, low back pain, dysuria, nocturia, etc

Complications include: swelling of the prostate gland and urinary retention, epididymitis, bacterima and pylenophristis.

**Etiology**

Causes are infectious agents which include

1. Bacteria
2. Fungi
3. Hyperplasia

**Therapeutic interventions**

The goal of therapy for acute bacterial prostatitis is to avoid the complications of abscess formation and septicemia

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), sitz baths (to relieve pain and spasm), and stool softeners (to prevent pain from straining).

**NURSING INTERVENTION**

1. Provision of comfort measures.
2. Administration of prescribed drugs
3. Provision for sitz bath
4. Nurse should instruct patients about the importance of continuing antibiotic therapy.

**HEALTH EDUCATION**

1. The nurse instructs the patient to complete the prescribed course of antibiotics.
2. Foods and liquids that have diuretic action or that increase prostatic secretions, such as alcohol, coffee, tea, chocolate, cola, and spices, should be avoided.
3. During periods of acute inflammation, sexual arousal and intercourse should be avoided.

**2. Benign prostatic hyperplasia (enlarged prostate) BPH**

BPH is characterized by proliferation of benign stromal and glandular elements. DHT, an androgen derived from testosterone, is the major hormonal stimulus for proliferation. BPH most commonly affects the inner periurethral zone of the prostate, producing nodules that compress the prostatic urethra. On microscopic examination, the nodules exhibit variable proportions of stroma and glands .Hyperplastic glands are lined by two cell layers, an inner columnar layer and an outer layer composed of flattened basal cells.

 Clinical symptoms and signs are reported by 10% of affected patients and include hesitancy, urgency, nocturia, and poor urinary stream. Chronic obstruction predisposes to recurrent urinary tract infections. Acute urinary obstruction may occur

.**Etiology**

 The cause is uncertain, but evidence suggests that hormones initiate hyperplasia of the supporting stromal tissue and the glandular elements in the prostate.

**Therapeutic interventions and surgeries**

1. **Catheterization**: If the patient is admitted on an emergency basis because he cannot void, he is immediately catheterized. The ordinary catheter may be too soft and pliable to advance through the urethra into the bladder. In such cases, a thin wire called a stylet is introduced (by an urologist) into the catheter to prevent the catheter from collapsing when it encounters resistance. In severe cases, metal catheters with a pronounced prostatic curve may be used.
2. **Suprapubic cystostomy**: an incision is made into the bladder to provide drainage.
3. **Prostatectomy**: this is performed to remove the hyperplasic prostatic tissue.
4. **Transurethral needle ablation**: uses low-level radiofrequencies to produce localized heat to destroy prostate tissue while sparing the urethra, nerves, muscles, and membranes. The radiofrequencies are delivered by thin needles placed into the prostate gland from a catheter. The body then reabsorbs the dead tissue.
5. **Microwave thermotherapy**: heat is applied to the hypertrophied prostatic tissue. A transurethral probe is inserted into the urethra, and microwaves are carefully directed to the prostate tissue. A water-cooling system helps to minimize damage to the urethra and decreases the discomfort from the procedure. The tissue becomes necrotic and sloughs.

As a result of its morbidity and cost, alternative procedures have been developed. These include high-intensity focused ultrasound, laser therapy, hyperthermia, and transurethral electro vaporization.

**Nursing management**

Nursing management of bph include the following

1. Nursing assessment to focus on the health the history of the patient
2. Provide comfort
3. Nurse should help patient deal with psychosocial concerns
4. Nurse should maintain fluid balance
5. Nurse should reduce anxiety for patient undergoing surgery
6. The nurse should instruct the patient to drink enough fluids

**Health education**

1. The nurse should teach the patient exercise to regain urinary control
2. The patient should be taught to void spicy food alcohol and coffee
3. The nurse should instruct the patient to avoid sexual intercourse.

**3. Cancer of the prostate**

**Prostate cancer** is the most common cancer in men other than nonmelanoma skin cancer and the second most common cause of cancer deaths in American men older than 55 years of age. Cancer of the prostate is typically a disease of men older than age 50 years, in whom it is quite common. Based on autopsy studies, its incidence increases from 20% in men in their 50s to approximately 70% in men between the ages of 70 and 80 years. Prostatic cancer is uncommon in Asians and occurs most frequently among blacks. In addition to hereditary factors, environment plays a role, as evidenced by the rise in the incidence of the disease in Japanese immigrants to the United States, though not nearly to the level of that of native-born Americans.

Risk factors, including age, race; family history, hormone levels, and environmental influences are suspected to play a role.

Signs and symptoms of urinary obstruction occur: difficulty and frequency of urination, urinary retention, and decreased size and force of the urinary stream. Other symptoms may include blood in the urine or semen and painful ejaculation. Hematuria may result if the cancer invades the urethra or bladder, or both. Prostate cancer can metastasize to bone and lymph nodes. Symptoms related to metastases include backache, hip pain, perineal and rectal discomfort, anemia, weight loss, weakness, nausea, and oliguria (decreased urine output). Unfortunately, these symptoms may be the first indications of prostate cancer.

**Etiology**

There is no certain cause for prostate cancer but there are risk factors which include:

1. Age
2. family history
3. ethnic origin or race
4. diet

**Therapeutic interventions and surgery**

1. Radical prostatectomy: this is the removal of the prostate and seminal vesicles. This remains the standard surgical procedure for patients who have early-stage, potentially curable disease and a life expectancy of 10 years or more.
2. 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. 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.
3. Hormonal therapy: this 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. Hormonal therapy for advanced prostate cancer suppresses androgenic stimuli to the prostate by decreasing the circulating plasma testosterone levels or interrupting the conversion to or binding of dihydro testosterone. Newer hormonal therapies include the luteinizing hormone– releasing hormone (LH-RH) agonists (leuprolide [Lupron] and goserelin [Zoladex]) and antiandrogen agents, such as flutamide (Eulexin). LH-RH suppresses testicular androgen, whereas flutamide causes adrenal androgen suppression.
4. Cryosurgery of the prostate**:** this is used to ablate prostate cancer in patients who could not physically tolerate surgery or in those with recurrent prostate cancer. Transperineal probes are inserted into the prostate under ultrasound guidance to freeze the tissue directly. Chemotherapy, such as doxorubicin, cisplatin, and cyclophosphamide, may also be used.

**Nursing management**

1. Provide education about diagnosis and treatment plan:
2. Determine patient’s usual pattern of urinary function.
3. Assess for signs and symptoms of urinary retention: amount and frequency of urination, suprapubic distention, complaints of urgency and discomfort.
4. Provide information about institutional and community resources for coping with prostate cancer: social services, support groups, community agencies.
5. Encourage communication with the patient.
6. Administer prescribed medications
7. Monitor effects of medication.