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 **DISORDERS OF THE PROSTATE GLAND**

 The disorders of the prostate gland include;

1. Prostatitis
2. Benign prostate hyperplasia (enlarged prostate)
3. Cancer of the prostate

 **PROSTATITIS**

Prostatitis is an acute inflammation of the prostate gland which is often associated with lower urinary tract symptoms and symptoms of sexual discomfort and dysfunction. The condition affects 5% to 10% of men and is the most common urologic diagnosis in men younger than 50 years of age.

CAUSES; It may be caused by infectious agents (bacteria, fungi, mycoplasma) or other conditions like (urethral stricture, BPH).

Escherichia coli is the most common isolated organism, although Klebsiella and proteus species are also found in the urinary tract where they colonize and ascend to the prostate causing infection.

There are four types of prostatitis:

1.Acute bacterial prostatitis (type1): it is characterized by a sudden onset of fever, dysuria, perineal prostatic pain and severe lower urinary tract symptoms.

2.Chronic bacterial prostatitis (type2)

3.Chronic prostatitis or chronic pelvic pain syndrome (CP/CPPS type 3)

4.Asymptomatic inflammatory prostatitis (type4)

 **MANAGEMENT AND THERAPEUTIC**

 **INTERVENTIONS**

1. Hospital admission may be necessary for patients with; unstable vital signs, sepsis or intractable pelvic pain, those who are immunosuppressed, those who have diabetes and those with renal insufficiency.

 Specific treatment is based on the type of prostatitis and the results from the culture and sensitivity testing of the urine.

1. Administration of antibiotics such as; trimethoprim-sulfamethoxazole (Bactrim) or a fluoroquinolone like ciprofloxacin (Cipro) these antibiotics are given if bacteria are cultured from the urine.
2. If patient is afebrile, and has a normal urinalysis, anti-inflammatory agents can be used e.g. Alpa-adrenergic blocker therapy like tamsulosin (Flomax), it is prescribed to promote bladder and prostate relaxation.
3. Other nonpharmacologic therapies could be used like; pelvic floor training, physical therapy, evaluation of sexual partners to reduce the possibility of cross-infection.

**NURSING CARE AND CLIENT TEACHING**

1. Administration of prescribed antibiotic agents.
2. Provision of comfort measures including administration of analgestic agents and warm sitz baths.
3. The nurse educates the patient and family about the importance of finishing the prescribed antibiotics and also explains the correct and safe way to administer them during home care.
4. Dietary restrictions; foods and liquids with diuretic actions which may increase prostatic secretions like coffee, tea, chocolate, cola, spices and alcohol should be avoided.
5. A suprapubic catheter may be necessary and used for patients with severe urinary retention.

 **BENIGN PROSTATIC HYPERPLASIA ( BPH )**

Benign prostatic hyperplasia (Enlarged prostate) is a noncancerous enlargement or hypertrophy of the prostate and is one of the most common diseases in in aging men. It affects as many as 90% of men above 40 years by the time they reach 60 to 85 years.

CAUSES; BPH generally occurs when men have elevated estrogen levels and when prostate tissue becomes more sensitive to estrogens and less responsive to dihydrotestosterone (DHT) which is a metabolite of testosterone and a critical mediator of prostatic growth.

Signs and symptoms may range from mild or severe and they include; urinary frequency, urgency, nocturia, hesitancy in starting urination, abdominal straining with urination, a decrease in volume and force of urinary stream.

 **MANAGEMENT AND THERAPEUTIC**

 **INTERVENTIONS**

1. Catheterization of patient on emergency basis when he is unable to void urine. The normal catheter may be too soft and pliable to advance through the urethra, in such a case, a metal catheter with a pronounced prostatic curve is used in severe obstruction.

Cystostomy; an incision into the bladder may be needed to provide urinary drainage.

1. The use of alpha-adrenergic blockers which include; Alfuzosin (uroxatral), Terazoxin (hytrin), Doxazosin (cardura) and Tamsulosin relax the smooth muscle of the bladder neck and prostate, they also improve urine flow and relieve symptoms of BPH.
2. The use of 5-alpha-reductase inhibitors; finasteride (proscar) and dutasteride (avodart) are used to prevent the conversion of testosterone to DHT and reduce prostate size.

 **SURGICAL MANAGEMENT** 1. Transurethral microwave thermotherapy (TUMT): Involves the application of heat to the prostatic tissue with either high energy TUMT devices like; core therm, prostatron or low energy device like Thermatrx. A transurethral probe is inserted into the urethraand microwaves are directed to the prostate tissue which makes it become necrotic and sloughs.

2. Transurethral needle ablation (TUNA): It makes use of low-level radio frequencies delivered by thin needles in the prostate gland to produce localized heat that destroys prostate tissue while sparing other tissues.

3.Transurethral resection of the prostate (TURP): involves the surgical removal of the inner portion of the prostate through an endoscope inserted through the urehra.

4. Open prostatectomy: This involves the surgical removal of the inner portion of the prostate via a suprapubic, retropubic or perineal approach for large prostate glands.

 **NURSING CARE AND CLIENT TEACHING**

1. Reduction of patient’s anxiety by encouraging the patient and establishing patient-nurse relationship.
2. Relieve patient’s discomfort through bed rest and administration of analgestic as prescribed.
3. Patient should be educated on dietary restrictions from food which may increase bladder discomfort like; coffee, spicy foods and alcohol.
4. The nurse teaches the patient exercises that help regain urinary control.
5. The nurse must monitor patient’s urinary output in order to prevent further complications.

 **CANCER OF THE PROSTATE**

Prostate cancer is a cancer that occurs in the prostate which is a small walnut-shaped gland in men that produces seminal fluid that nourishes and transports sperm. Prostate cancer is the most common cancer in men other than nonmelanoma skin cancer.

CAUSES: it is not clear what causes prostate cancer but a risk factor may include hereditary prostate cancer 1 (HPC1) as well as BRCA1 and BRCA2 mutations. Mutation in the abnormal cells of the DNA cause the cells to grow more rapidly than normal cells do and these abnormal cells continue to live when other cells die. These two genes are found on different chromosomes, BRCA1 found on chromosome 17 while BRCA2 found on chromosome 13 cause mutations which increase the risk of developing the cancer.

 **MANAGEMENT AND THERAPEUTIC**

 **INTERVENTION**

 Treatment is based on patients symptoms and stage of cancer

1. Therapeutic vaccines kill existing cancer cells and provide long lasting immunity against further cancer development. Sipuleucel-T (provenge) is used for men with metastatic prostate cancer that is no longer responding to hormone therapy.
2. Abiraterone acetate (zytiga) and cabazitaxel (jevtana injection) are treatment for patients requiring care for metastatic castration-resistant prostate cancer which does not respond to sipuleucel-T.
3. Hormone associated therapy involves the release of luteinizing hormone releasing hormone (LHRH) with the use of LHRH therapies. The drugs in this class includes Lupron, viadur, zoladex, trelstar and are administered as regular shots ranging from once per month to once per year.
4. Chemotherapy is a reaction to drugs given for the purpose of killing cancer cells and docetaxel (Taxotere) is the most commonly used drug for advanced prostate cancer.

 **SURGICAL MANAGEMENT**

1. Radical prostatectomy: is considered first line treatment for prostate cancer and is used for patient whose tumor is confined to the prostate. It is the complete surgical removal of the prostate, seminal vesicles, tips of the vas deferens and often surrounding fat, nerves and blood vessels.
2. Robotic-Assisted laparoscopic radical prostatectomy: it is a minimally invasive approach that uses computer console and a robot to move instruments, replicating the movement of the surgeons hands.
3. Laparoscopic radical prostatectomy: this is an insertion of a long instrument 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 helps the surgeon see the body.
4. Radio therapy: prostate cancer is a non-cutaneous cancer and prostate stereotactic body therapy (SBRT) can be performed with multiple radiation therapy platforms including linear accelerator (LINAC), helical tomotherapy and robotic radiosurgery.

 **NURSING CARE AND CLIENT TEACHING**

1. Provide education to patient about diagnosis and treatment plan, telling him tests to expect and how long it will take.
2. Catheterize patient to relieve urinary retention and monitor urinary output.
3. Prepare patient for surgery if indicated and give psychological support.
4. Encourage communication with patient and familiarize patient with ways of maintaining bladder control.
5. Relieve patients discomfort by administering analgesic as prescribed.