INTRODUCTION

The Prostrate is a walnut-sized gland located between the bladder and the penis. The Prostrate is just in front of the rectum. The urethra runs through the center of the prostrate, from the bladder to the penis, letting urine flow out of the body. The prostrate secretes fluid that nourishes and protects sperm. During ejaculation, the prostrate squeezes this fluid into the urethra , and it’s expelled with sperm as semen. The Vasa deferentia bring sperm from the testes to the seminal vesicles. The Seminal vesicles contribute fluid to semen during ejaculation.

THE 3 MAIN DISEASES FOR PROSTRATE GLANDS ARE

1. PROSTATITIS
2. BENIGH PROSTRATIC HYPERPLASIA( ENLARGED PROSTRATE)
3. CANCER OF THE PROSTRATE

PROSTATITIS

Prostatitis is an inflammation of the prostate gland that is often associated with lower urinary tract symptoms and symptoms of sexual discomfort and dysfunction. This condition affects 5% to 10% of men. It is the most common urologic diagnosis in men older than 50 years. Prostatitis can be classified as Bacterial Prostatitis(Acute or Chronic) and Non bacterial prostatitis.

CAUSES OF PROSTATITIS

* For acute prostatitis- Bacteria such as Pseudomonas and Gram positive cocci such as streptococcus and staphylococcus
* For chronic prostatitis- Caused by gram negative bacteria such as Escherichia coli Websiella, pneumonia and pseudomonas aeruginosa.
* Urethral Stricture
* Benigh Prostrtic Hyperplasia

MEDICAL MANAGEMENT

* ACUTE BACTERIAL PROSTATITIS: The antimicrobial agents form the basis of tratement for ABP. Antibiotics such as Monocycline, doxycycline and carbenicillin.
* CHRONIC BACTERIAL PROSTATITIS: CBP was traditionally treated with the antibiotic combination Trimethoprim-sulfamethazole(TMP-SMX) or Fluoroquinolone(e.g ciprofloxacin),
* Anticholinergic to relieve spasms
* Oral antispasmodic agents to relieve frequency and urgency.

NURSING MANAGEMENT

* Obtain history of previous UTI, sexually transmitted infections or voiding pattern
* Collect specimen of urine for culture and prostatic secretions
* Start as prescribed antibiotics therapy according to the results of culture and sensitivity
* Tepid sponge and administer antipyretic when necessary
* Keep patient well hydrated and avoid pver-hydration
* Administer analgesic and anti-inflammatory drugs as prescribed
* Maintain bed rest to relieve suprapubic and perineal pain
* Sitz bath 10-20 minutes daily
* Void sitting for long periods of time
* Advise to avoid sexual intercourse and arousal may be beneficial till cleared.

CLIENT TEACHING

The nurse educates the patient about the importance of completing the prescribed course of antibiotic therapy. The nurse educates the patient and family about correct and safe administration. Warm sitz bath may be taken about 10-20minutes. Fluids are encouraged to satisfy thirst but are not forced because of an effective medication level must be maintained in the urine. Fluids and liquids with diuretic action or that increase prostatic secretions, such as alcohol, coffee, tea, chocolate, cola, and spices, should be avoided. A suprapubic catheter may be necessary for severe urinary retention. 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 recur. The patient is advised that the UTI may recur and is educated to recognize its symptoms.

BENIGH PROSTATIC HYPERPLASIA (ENLARGED PROSTATE)

Benigh Prostatic Hyperplasia is a noncancerous enlargement or hypertrophy of the prostate. Continued growth creates pressure on the prostatic urethra and eventually may lead to the prostatic urethra obstructed. It’s one of the most common disease in aging men and occurs between age of 60 and 80% of the men. It causes bothersome with the lower urinary tract symptoms and interferes with sleeping pattern and also interferes with the Daily activities of life. BPH can present itself in several ways with all symptoms being as a result of bladder outflow obstruction. These can be categorized as **‘OBSTRUCTIVE’ AND IRRITATIVE’. OBSTRCTIVE SYMPTOMS** would include:

* Decreased force of urinary stream, Hesitancy in initiating voiding, Postvoid dribbling, Sensation of incomplete emptying of bladder, Intermittency, Occasional urinary retention.
* **IRRITATIVE SYMPTOMS INCLUDE**: Dysuria Nocturia,Urgency,Haematuria, Frequency.

**The CAUSES OF BPH include**: The causes of BPH remains unclear however there are two proven factors the Aging process and the presence of normally functioning testes and testicular androgens (Male androgens which govern the development of sexual organs). Dihydrotestoterone(DHT) a metabolite of testosterone and is a critical mediator of prostatic growth. Decreased androgen and Increased estrogen, Tumor and Infections.

THERAPEUTIC INTERVENTIONS INCLUDE:

* **DIGITAL RECTAL EXAM:** To check the enlargement of the prostrate.
* **ULTRSOUND AND CT SCAN:** For renal masses and vascular disorders.
* **URINALYSIS:** To rule out Haematuria and Infection.
* **SERUM CREATININE AND UREA(BUN**: to rule out cancer but this may be elevated in BPH.
* **CYTO-URETHROSCOPY:** To reveal prostate enlargement, bladder wall changes, calculi, size etc.
* **CYTOSCOPY:** To reveal any deviation from normal in the bladder and urinary tract. Urinalysis, urine culture & sensitivity.

**MEDICAL TREATMENT**

Medication is the most common treatment for mild to moderate symptoms of BPH which includes:

1. **ALPHA BLOCKERS**: These medications relax bladder neck muscles and muscle fibers in the prostate making urination easier. Alpha blockers include Alfuzosin(Uroxatral), Doxazolin(cardura),Tamsulin(Flomax) and sildosin(Rapaflo). It usually work quickly in men with small prostates. Side effects include dizziness and a harmless condition in which semen goes back into the bladder instead of the tip of the penis(retrograde ejaculation)
2. **5-ALPHA REDUCTASE INHIBITORS**: These medications shrinks the prostate by preventing hormonal changes that cause prostate growth. This medication include Finasteride(Proscar) and Dutasteride(Avodart).
3. COMBINATION DRUG THERAPY
4. **TADALAFIL (CIALIS):** It is used to treat erectile dysfunction and can also treat prostate enlargement.

SURGICAL INTERVENTION

* **TRANSURETHRAL RESECTION OF THE PROSTATE(TURP):** A light microscope is inserted into the urethra and the surgeon removes all but outer part of the prostrate
* **SUPRAPUBIC(TRANSVERSICAL):**Incision into the bladder to remove prostate gland
* **PERINEAL:** Remove gland through perineum
* **PETROPUBIC**: Incision through lower abdominal wall

Other surgical procedure include: Laser therapy, Transurethral needle ablation(TUNA), Transurethral microwave thermotherapy(TUMT), Prostatic Urethral Lift(PUL),Embolization, Open or Robot-assisted Prostatectomy.

**NURSING CARE**

Examination with objective and subjective data, Obtain history of voiding symptoms, onset, frequency of day and night urination, presence of urgency, dysuria, sensation of incomplete bladder emptying, Perform rectal and abdominal examination to detect distended bladder and degree of enlargement**. SPECIFIC PRE-OPERATIVE CARE INCLUDE:** Observe all general pre-operative care, Allay patient’s fear and anxiety, Explain type of surgery**. PRE-OPERATIVE CARE** INCLUDE: Shaving, Indwelling catheter, consent, intravenous line and site preparation. **SPECIFIC** **POST-OPERATIVE CARE INCLUDE:** Vital signs and observe operation site frequently for bleeding, Strict input and output chart, Prevent cloth formation in catheter by preventing kinking and encourage oral fluid intake, Encourage early ambulation with passive and active exercises to prevent complications , Encourage plenty fluid intake to avoid clots and prevent dehydration, Avoid straining, heavy lifting, and prolonged sitting.

PATIENT HEALTH EDUCATION

* Explain the symptoms and complications of BPH e.g urinary retention, cystitis, increase in irritative voiding.
* Teach patient to do kegel(perineal exercise) after surgery to help gain control of voiding by contracting the perineal muscles for 10-15 seconds then relax. Repeat 15 times and 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 prostrate is possible.

CANCER OF THE PROSTATE

Prostate cancer is the most common cancer in men other than nonmelanoma skin cancer. It is common in the United state and north western Europe but rare in Africa, Central America, South America, China and other parts of Asia. The ability to diagnose the cancer in its early stages, before either local or distant spread has occurred is important to the prospects for cure by surgery or radiotherapy. Prostate cancer is rarely and is symptomatic when still confined to the prostate because most of the tumors arise in the periphery of the gland and distort the urethra to obstruct urinary flow.

AETIOLOGY OF CANCER OF THE PROSTATE INCLUDE: GENETIC FACTORS: Mutations in the abnormal cells ‘ DNA cause the cells to grow more rapidly than normal cells do. The abnormal cells continue living, when other cells would die. The accumulating cells form a tumor that can grow to invade nearby tissue. Some abnormal cells can break off and spread(metastasize) to other parts of the body. Dietary Factors and Occupational factors and sometimes can be idiopathic.

THERAPEUTIC INTERVENTIONS WITH SURGERY

MEDICAL MANAGEMENT

Treatment depend on patient’s life expectancy, symptoms, risk of occurrence after definite treatment, size of tumor, likelihood of complications and patients preference. Treatment can be **Surgical management and Non-surgical management**

Patients with prostate cancer who choose non surgical management, this involves actively monitoring the course of disease and intervening only if the cancer progresses or if symptoms warrant other interventions.

This approach is at advantage because it includes absence of side effects of more aggressive treatment ad decreased initial costs. And it is also at disadvantage because it includes missed chance of cure, risk of metastasis, subsequent need of more aggressive treatment, anxiety about untreated cancer, and need for frequent monitoring.

Therapeutic vaccine kills existing cancer cells and provide long-lasting immunity against further cancer development. Two medication Abiraterone acetate(Zytiga) and cabazitaxel( Jevtana) are treatments options for patient requiring care for the management of metastatic castration-resistant prostate cancer, which does not respond to usual treatment.

**SURGICAL MANAGEMENT**

* RADICAL PROSTATECTOMY

Radical Prostatectomy is considered the first-line treatment for prostate cancer and is used with patients whose tumor is confined to the prostate. It is complete surgical removal o the prostate, seminal vesicles, tips of the vas deferens, and often the surrounding fat, nerves, and blood vessels. Laparoscopic radical prostatectomy and robotic assisted laparoscopic radical prostatectomy have become the standard approaches for localized cancer of the prostate. Although sexual impotence is a common side effect, these laparoscopic radical prostatectomy approaches result in low morbidity and more favorable postoperative outcomes, including improved quality of life and less sexual dysfunction if the nerves are spared.

* RADIOLOGICAL THERAPY

Two major forms of radiological therapy are used to treat cancer of the prostate:

1. Teletherapy(external beam radiation therapy) is prescribed by the radiation oncologist for a total dose over a certain time frame. It is treatment option for a low prostate cancer.
2. Brachytheraphy(internal) involves the implementation of interstitial radioactive seeds under anesthesia. It has become a commonly used monotheraphy treatment option for early, clinically organ-confined prostate cancer. The surgeon uses ultrasound guidance to place 80 to 100 seeds (depending on the prostate volume), and the patients returns home after the procedure. Radiation safety guidance include straining urine for seeds and using a condom during sexual intercourse for 2 weeks after implementation to catch any seeds that pass through urethra.
3. HORMONAL THERAPY: This is commonly used to suppress androgenic stimuli to the prostate by decreasing the level of circulating plasma testosterone or interrupting the conversation to or binding to DHT. This effect is accomplished either by surgical castration (bilateral orchiectomy, removal of one or both testes) which has traditionally been mainstay treatment or by medical castration with the administration of medications such as leuteinizing hormone releasing hormone (LHRH) agonists. Bilateral orchiectomy decreases plasma testosterone levels significantly because approximately 93% of circulating testosterone is of circular origin (7% is from the adrenal glands) and other high grade cancers. Therefore, antiangiogenic treatment in combination with conventional treatment strategies. Possible complication relate to chemotheraphy are specific to the type of chemotheraphy given.
4. CHEMOTHERAPHY: Tumor angiogenesis is essential for tumor growth, including growth of prostate carcinomas.

NURSING CARE.

1. Nurse should provide accurate, complete, and consistent information to help patients understand the full implications of the disease process.
2. Nurse must encourage men with prostate cancer to participate in making the best treatment decisions, and support their families to enable them to face this problem without emotional distress.
3. Educate patients on each treatment options and ways to cope with the side effects.
4. Nurse must provide information about the disease and treatment offered and helping patients and family members to cope with the illness.
5. Nurse must help patients manage symptoms and side effects and implementation of self care measures.
6. Providing psychological support for patients and families.
7. When prostate cancer result in terminal diagnosis, the nurse must help the patients obtain the best end-of-life care.

**PATIENT HEALTH EDUCATION**

1. Educate them on the side effects of the medication,
2. Educate patient on follow up care
3. Educate the patient on important of completing medication/therapy and Give necessary information about cancer.