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**LEVEL: 300L**

**DEPARTMENT: NURSING SCIENCE**

**MEDICAL SURGICAL ASSIGNMENT**

READ ABOUT MALE REPRODUCTIVE SYSTEM:

At the end of your reading, summarize the followings in maximum of 6 typed pages:

1. The different disorders of the prostrate gland

2. Their aetiologies

3. The therapeutic interventions as well as surgeries

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

THE PROSTATE GLAND

The prostate gland is a male reproductive organ that produces fluids that feed and protect sperm cells.

1. THE DIFFERENT DISORDERS OF THE PROSTRATE GLAND

The three most common forms of prostate disease are inflammation (prostatitis), non-cancerous enlargement (BPH), and prostate cancer.

**A.PROSTATITIS**

Prostatitis is swelling and inflammation of the prostate gland, a walnut-sized gland situated directly below the bladder in men. The prostate gland produces fluid (semen) that nourishes and transports sperm.

Prostatitis often causes painful or difficult urination. Other symptoms include pain in the groin, pelvic area or genitals and sometimes flu-like symptoms.

The 4 syndromes of prostatitis are as follows:

I - Acute bacterial prostatitis

II - Chronic bacterial prostatitis

III - Chronic prostatitis and chronic pelvic pain syndrome (CPPS; further classified as inflammatory or noninflammatory)

IV - Asymptomatic inflammatory prostatitis.

* **Acute bacterial prostatitis**: Often caused by common strains of bacteria, this type of prostatitis generally starts suddenly and causes flu-like signs and symptoms, such as fever, chills, nausea and vomiting.
* **Chronic bacterial prostatitis**: When antibiotics don't eliminate the bacteria causing prostatitis, you can develop recurring or difficult-to-treat infections. Between bouts of chronic bacterial prostatitis, you might have no symptoms or only minor ones.
* **Chronic prostatitis/chronic pelvic pain syndrom**e: This type of prostatitis, the most common, isn't caused by bacteria. Often an exact cause can't be identified. For some men, symptoms stay about the same over time. For others, the symptoms go through cycles of being more and less severe.
* **Asymptomatic inflammatory prostatitis**: This type of prostatitis doesn't cause symptoms and is usually found only by chance when you're undergoing tests for other conditions. It doesn't require treatment.

**B. NON-CANCEROUS ENLARGEMENT (BPH)**

Enlargement of the prostate is called benign prostatic hyperplasia (BPH). It occurs when the cells of the prostate gland begin to multiply. These additional cells cause the prostate gland to swell, which squeezes the urethra and limits the flow of urine.

BPH is not the same as prostate cancer and doesn’t increase the risk of cancer. However, it can cause symptoms that can affect ones quality of life. BPH is common in men older than 50 years.

Common symptoms include; incomplete bladder emptying, nocturia, which is the need to urinate two or more times per night, dribbling at the end of your urinary stream, incontinence, or leakage of urine, the need to strain when urinating, a weak urinary stream, a sudden urge to urinate, a slowed or delayed urinary stream, painful urination, blood in the urine.

**C. PROSTATE CANCER**

Prostate cancer is cancer that occurs in the prostate, a small walnut-shaped gland in men that produces the seminal fluid that nourishes and transports sperm.

Prostate cancer is one of the most common types of cancer in men. Usually prostate cancer grows slowly and is initially confined to the prostate gland, where it may not cause serious harm. However, while some types of prostate cancer grow slowly and may need minimal or even no treatment, other types are aggressive and can spread quickly.

Prostate cancer that's detected early, when it's still confined to the prostate gland has a better chance of successful treatment.

Prostate cancer may cause no signs or symptoms in its early stages.Prostate cancer that's more advanced may cause signs and symptoms such as: Trouble urinating, Decreased force in the stream of urine, Blood in semen, Discomfort in the pelvic area, Bone pain, and erectile dysfunction.

2. THE AETIOLOGIES

**A. PROSTATITIS**

**Acute bacterial prostatitis**: caused by common strains of bacteria such as Pseudomonas and Gram positive cocci such as streptococcus and staphylococcus. The infection can start when bacteria in urine leak into the 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).

**Chronic bacterial prostatitis**: Caused by bacteria such as gram-negative e.g E.coli, Websiella, pneumonia and pseudomonas aeruginosa.

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.

**Risk factors include**:

-Being young or middle-aged

-Having had prostatitis previously

-Having an infection in the bladder or the tube that transports semen and urine to the penis (urethra)

-Having pelvic trauma, such as an injury from bicycling or horseback riding

-Using a tube inserted into the urethra to drain the bladder (urinary catheter)

-Having HIV/AIDS

-Having had a prostate biopsy

**B. NON-CANCEROUS ENLARGEMENT (BPH)**

BPH is considered a normal condition of male aging, and many men older than 80 years have BPH symptoms. Although the exact cause is unknown, changes in male sex hormones that come with aging may be a factor. Any family history of prostate problems or any abnormalities with the testicles may raise the risk of BPH. Men who’ve had their testicles removed at a young age don’t develop BPH.

**Risk factors for prostate gland enlargement include**:

-Aging: About one-third of men experience moderate to severe symptoms by age 60, and about half do so by age 80.

-Family history: Having a blood relative, such as a father or a brother, with prostate problems means one is more likely to have problems.

-Diabetes and heart disease: diabetes, as well as heart disease and use of beta blockers, might increase the risk of BPH.

-Lifestyle: Obesity increases the risk of BPH, while exercise can lower the risk.

**C. PROSTATE CANCER**

It's not clear what causes prostate cancer. It is know that prostate cancer begins when some cells in the prostate become abnormal. Mutations in the abnormal cells' DNA cause the cells to grow and divide more rapidly than normal cells do. The abnormal cells continue living, when other cells would die. The accumulating abnormal cells form a tumor that can grow to invade nearby tissue. Some abnormal cells can also break off and spread (metastasize) to other parts of the body.

**Risk factors include**

-Age: ones risk of prostate cancer increases as you age.

-Race: black men carry a greater risk of prostate cancer than do men of other races. In black men, prostate cancer is also more likely to be aggressive or advanced.

-Family history: if one has a family history of genes that increase the risk of breast cancer (BRCA1 or BRCA2) or a very strong family history of breast cancer, the risk of prostate cancer may be higher.

-Obesity

3. THE THERAPEUTIC INTERVENTIONS AS WELL AS SURGERIES

**A. PROTATITIS**

Acute prostatitis and chronic bacterial prostatitis are treated with antibiotics.

Chronic non-bacterial prostatitis, or male chronic pelvic pain syndrome is treated by a large variety of modalities including alpha blockers, non-steroidal antiinflammatories and amitriptyline.

Other treatments may include physical therapy, psychotherapy, antihistamines, anxiolytics, nerve modulators, phytotherapy, transurethral resection of the prostate (TURP) or transurethral vaporization of the prostate (TUVP)

**B. NON-CANCEROUS ENLARGEMENT (BPH)**

BPH can be treated with medication, a minimally invasive procedure or, in extreme cases, surgery that removes the prostate.

Treatment often begins with an **alpha-1 adrenergic receptor antagonist** medication such as tamsulosin, which reduces the tone of the smooth muscle found in the ureter that passes through the prostate, making it easier for urine to pass through.

For people with persistent symptoms, procedures may be considered. The surgery most often used in such cases is called **transurethral resection of the prostate**, in which an instrument is inserted through the urethra to remove prostate tissue that is pressing against the upper part of the urethra and restricting the flow of urine. This results in the removal of mostly transitional zone tissue in a patient with BPH.

Minimally invasive procedures include **transurethral needle ablation of the prostate (TUNA)** and **transurethral microwave thermotherapy (TUMT).**

These outpatient procedures may be followed by the insertion of a temporary prostatic stent, to allow normal voluntary urination, without exacerbating irritative symptoms. In some cases, "obesity management may be an effective method to reduce prostate volume."

**C. PROSTATE CANCER**

A **digital rectal examination** and the **measurement of a prostate specific antigen (PSA) level** are usually the first investigations done to check for prostate cancer.

The next form of testing is often the taking of a **biopsy** to assess for tumor activity and invasiveness. If a tumor is confirmed, medical imaging such as an **MRI** or **bone scan** may be done to check for the presence of tumor metastases in other parts of the body.

Prostate cancer that is only present in the prostate is often treated with either surgical removal of the prostate or with **radiotherapy** or by the insertion of small radioactive particles (**brachytherapy**). Cancer that has spread to other parts of the body is usually treated with **hormone therapy**, to deprive a tumor of sex hormones (androgens) that stimulate proliferation. This is often done through the use of GnRH analogues or agents that block the receptors that androgens act at, such as bicalutamide; occasionally, surgical removal of the testes may be done instead.

Cancer that does not respond to hormonal treatment, or that progresses after treatment, might be treated with **chemotherapy** such as docetaxel. **Radiotherapy** may also be used to help with pain associated with bony lesions.

Sometimes, the decision may be made not to treat prostate cancer. If a cancer is small and localized, the decision may be made to monitor for cancer activity at intervals ("**Active surveillance**") and defer treatment. If a person, because of frailty or other medical conditions or reasons, has a life expectancy less than ten years, then the impacts of treatment may outweigh any perceived benefits.

4. THE NURSING CARE AND CLIENT TEACHING IN THE DIFFERENT CONDITIONS

**A. PROSTATITIS**

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| **NURSING CARE** | **CLIENT TEACHING**  |
| •Tepid sponge and administer antipyretic when necessary.•Keep patient well hydrated but avoid over-hydration.•Administer analgesic and anti-inflammatory drugs as prescribed.•Maintain bed rest to relief perineal and suprapubic pain.•Instruct on sitz bath 10-20 minutes daily.•Void sitting for long periods of time. Advice to avoid sexual intercourse/arousal may be beneficial till cleared.•Encourage follow-up because reoccurrence is possible. | •Educating the client on the importance of completing the prescribed course of treatment.•Educating the client on safe and correct administration of the medication prescribed.•Educating the client on the importance of avoiding sexual intercourse, straining at stool, heavy lifting and long periods of sitting.•Educating the client on the importance of follow-up visits for at least 6 months to 1 year because prostatitis may recur.•Educating the patient to recognize UTI symptoms in the case of recurrence.•Educating the client on the importance sitz bath.•Educating the client on the importance of avoiding liquids and foods that increase prostatic secretions eg coffee, spices etc. |

**B. NON-CANCEROUS ENLARGEMENT (BPH)**

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| **NURSING CARE**  | **CLIENT TEACHING**  |
| Specific pre-operative care•Observe all general pre-operative care•Allay patient’s fear, anxiety.•Explain the type of the surgery•Pre-operative care care; Shaving, indwelling catheter.•Consent, intravenous line, site preparationSpecific post-operative care•Vital signs and observe operation site frequently for bleeding.•Strict intake 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 of fluid intake to avoid clots and prevent dehydration.•Avoid straining, heavy lifting and prolonged sitting. | •Explaining and educating the patient on the symptoms and complication of BPH (a) Urinary retention (b) Cystitis (c) Increase in irritative voiding symptoms by encouraging patient to report the symptoms.•Teaching patient to do Kegel (Perineal exercise) after surgery to help gain control of voiding. {Contract perineal muscle for 10-15 secs, then relax. Repeat 15 times.Do 15 sets per day.}•Educating the patient on the importance of avoiding sexual intercourse, straining at stool, heavy lifting and long periods of sitting for 6 to 8 weeks after surgery until Prostatic fossa is healed.•Educate the patient on the importance of follow-up visits as urethra stricture may occur and regrowth of prostate is possible. |

**C. PROSTATE CANCER**

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| **NURSING CARE**  | **CLIENT TEACHING**  |
| Specific preoperative care•Reduce anxiety.•Relieve discomfort.•Provide instruction regarding anatomy, surgical procedure, and postoperative expectations.•Prepare the patient for surgery. This may include application of anti-embolic stockings, administering an enema, and prophylactic antibiotics.Specific postoperative care •Maintain fluid balance and document intake and output, including fluid used to irrigate the catheter.•Assess for electrolyte imbalance.•monitor vital signs.•Observe for signs of confusion or respiratory distress.•Relieve pain by administering analgesics as ordered and evaluating effectiveness.•Increase mobility beginning with early ambulation.•Assess for bladder spasms.•Monitor wound drainage and provide wound care as needed. | •Educating and explaining the symptoms and complications of Prostate cancer.• Educating the client on the surgeries and therapies of Prostate cancer and its side effects.•Educating the patient on the uses of prescribed medications.•Advising the client on the importance of appropriate physical activity.•Educating the client on the importance of follow up visits. |