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Types of prostate disease

The three most common forms of prostate disease are

* Inflammation (prostatitis).
* Non-cancerous enlargement of the prostate (benign prostatic hyperplasia, or BPH).
* Prostate cancer.

1). Inflammation of the prostate (prostatitis)

This is the inflammation of the prostate, often caused by bacterial infection. While prostatitis can affect men of any age, it is more common in younger men, aged between 30 and 50 years.

There are four types of prostatitis, they are:

* Acute bacterial prostatitis: Caused by a bacterial infection, and it typically starts suddenly and may include flu-like symptoms. It is the least common of the four types of prostatitis.
* Chronic bacterial prostatitis: Described by recurrent bacterial infections of the prostate gland. Between attacks, the symptoms might be minor or the patient may even be symptom free; however, it can be difficult to treat successfully.
* Chronic prostatitis/chronic pelvic pain syndrome: Most cases of prostatitis fall into this category; however, it is the least understood. Chronic prostatitis/chronic pelvic pain syndrome can be described as inflammatory or noninflammatory, depending upon the presence or absence of infection-fighting cells in the urine, semen, and prostatic fluid. Often no specific cause can be identified. The symptoms can come and go or remain chronically.
* Asymptomatic inflammatory prostatitis: This condition is often diagnosed incidentally during the workup for infertility or prostate cancer. Individuals with this form of prostatitis will not complain of symptoms or discomfort, but they will have the presence of infection-fighting cells present in semen/prostatic fluid.

Symptoms

Prostatitis signs and symptoms depend on the cause. They can include:

* Pain or burning sensation when urinating (dysuria)
* Difficulty urinating, such as dribbling or hesitant urination
* Frequent urination, particularly at night (nocturia)
* Urgent need to urinate
* Cloudy urine
* Blood in the urine
* Pain in the abdomen, groin or lower back
* Pain in the area between the scrotum and rectum (perineum)
* Pain or discomfort of the penis or testicles
* Painful ejaculation
* Flu-like signs and symptoms (with bacterial prostatitis)

Causes

Acute bacterial prostatitis is often caused by common strains of bacteria. The infection can start when bacteria in urine leak into your 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).

It can also result from various sexually transmitted organisms such as Neisseria gonorrhoeae, Chlamydia trachomatis, or HIV. Other organisms responsible for infection are the same found most frequently in urinary tract infections, such as Escherichia coli. 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.

Diagnosis

Diagnosing prostatitis involves ruling out other conditions as the cause of your symptoms and determining what kind of prostatitis the patient has. The doctor will also do a physical exam, which will likely include a digital rectal examination.

Other possible causes of CPPS include:

* a past bacterial prostatitis infection
* irritation from some chemicals
* a problem with the nerves connecting the lower urinary tract
* problems with pelvic floor muscles
* sexual abuse
* chronic anxiety problems.

Therapeutic interventions

Treatment for prostatitis depends on the underlying cause and type of prostatitis. Antibiotics are prescribed if the cause is a bacterial infection. All forms of prostatitis require pain control if needed. They can include:

* Antibiotics: Taking antibiotics is the most commonly prescribed treatment for prostatitis. The doctor will choose the appropriate medication based on the type of bacteria that might be causing the infection. If symptoms are severe the patient might need intravenous (IV) antibiotics. The patient will likely need to take oral antibiotics for four to six weeks but might need longer treatment for chronic or recurring prostatitis.
* Anti-inflammatory medications: Non-steroidal anti-inflammatory drugs (NSAIDs) might make the patient more comfortable.These can help manage pain.
* Alpha-blockers: These medications help relax the bladder neck and the muscle fibers where your prostate joins your bladder. This treatment might ease symptoms, such as painful urination.

Surgical intervention

Surgery is usually not indicated for chronic prostatitis. However, in situations when a patient has recurrent episodes of chronic prostatitis and resists antibiotics, transurethral resection of the prostate (TURP) or transurethral vaporization of the prostate (TUVP) may remove a nidus of infection. This nidus may be in the form of prostatic stones, which are difficult to treat with antibiotic therapy alone. These stones are usually visible on transrectal ultra sonograms. This procedure involves removal of part of the prostate gland through the urethra. A long, thin tube with a viewing instrument (cystoscope) attached is inserted into the urethra. Prostate tissue is removed through the cystoscope.

Nursing care

* Monitor input and output
* Provide psychological support
* Administer prescribed medication
* Appropriately educate patient on lifestyle changes to prevent reoccurrence

Client teaching

* Limit your caffeine and alcohol. Drinks like tea, coffee, and soda can inflame the urinary tract and bladder.
* Maintain a healthy weight.
* Manage your stress.
* Practice safe sex.

2). Non-cancerous enlargement of the prostate (BPH)

Non-cancerous enlargement of the prostate, or benign prostatic hyperplasia (BPH), is more common as men get older. It is not life threatening, but can significantly affect quality of life.It occurs when enlargement of the prostate gland (which surrounds the top of the urethra) causes the urethra to narrow, and puts pressure on the base of the bladder, which can lead to obstruction in the flow of urine.

BPH symptoms

The symptoms of BPH are often very mild at first, but they become more serious if they aren’t treated. 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 (hematuria)

Causes

The prostate gland is located beneath the bladder of men. The tube that transports urine from the bladder out of the penis (urethra) passes through the center of the prostate. When the prostate enlarges, it begins to block urine flow. Enlargement occurs when the cells of the prostate gland begin to multiply. Most men have continued prostate growth throughout life. In many men, this continued growth enlarges the prostate enough to cause urinary symptoms or to significantly block urine flow.

It isn't entirely clear what causes the prostate to enlarge. However, it might be due to changes in the balance of sex hormones as men grow older.

Risk factors

* Aging: Prostate gland enlargement rarely causes signs and symptoms in men younger than age 40. About one-third of men experience moderate to severe symptoms by age 60, and about half do so by age 80.
* Family history: A person having a blood relative, such as a father or a brother, with prostate problems is more likely to have problems.
* Diabetes and heart disease: Studies show that 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 your risk.

Obstructions usually show up as lower urinary tract symptoms that sometimes result in the urine staying in the bladder when it's supposed to be released. When this happens suddenly, it's called acute urinary retention. This is very painful and is usually relieved temporarily by inserting a thin tube (a catheter) to release the urine.

Chronic (ongoing) retention, which is less common, can lead to a dangerous, painless accumulation of urine in the bladder. An uncommon form of chronic urinary retention is associated with high bladder pressures, which can damage kidney function.

Treatment

A wide variety of treatments are available for enlarged prostate, including medication, minimally invasive therapies and surgery. The best treatment choice depends on several factors, including:

* The size of prostate
* Age
* Overall health of patient
* The amount of discomfort or bother the patient is experiencing
* If your symptoms are tolerable, the patient might decide to postpone treatment and simply monitor their symptoms. For some men, symptoms can ease without treatment.

Medication

Medication is the most common treatment for mild to moderate symptoms of prostate enlargement. The options include:

* Alpha blockers: These medications relax bladder neck muscles and muscle fibers in the prostate, making urination easier. Alpha blockers — which include alfuzosin (Uroxatral), doxazosin (Cardura), tamsulosin (Flomax) and silodosin (Rapaflo) — usually work quickly in men with relatively small prostates. Side effects might include dizziness and a harmless condition in which semen goes back into the bladder instead of out the tip of the penis (retrograde ejaculation).
* 5-alpha reductase inhibitors: These medications shrink the prostate by preventing hormonal changes that cause prostate growth. These medications — which include finasteride (Proscar) and dutasteride (Avodart) — might take up to six months to be effective. Side effects include retrograde ejaculation.
* Combination drug therapy: The doctor might recommend taking an alpha blocker and a 5-alpha reductase inhibitor at the same time if either medication alone isn't effective.
* Tadalafil (Cialis): Studies suggest this medication, which is often used to treat erectile dysfunction, can also treat prostate enlargement.

Surgery for BPH

There are different types of surgical procedures that can help treat BPH when medications are not effective. Some procedures are either not invasive or minimally invasive and can often be done in your doctor’s office or clinic (outpatient procedures). Others are more invasive and need to be done in a hospital (inpatient procedures).

Outpatient procedures

Outpatient procedures involve inserting an instrument into the urethra and into the prostate gland. They include:

* Transurethral needle ablation (TUNA): Radio waves are used to scar and shrink prostate tissue.
* Transurethral microwave therapy (TUMT): Microwave energy is used to eliminate prostate tissue.
* Water-induced thermotherapy (WIT): Heated water is used to destroy excess prostate tissue.
* High-intensity focused ultrasonography (HIFU): Sonic energy is used to eliminate excess prostate tissue.

Inpatient procedures

Inpatient procedures might be recommended if the patient has any of the following symptoms:

* kidney failure
* bladder stones
* recurrent urinary tract infections
* incontinence
* a complete inability to empty the bladder
* recurrent episodes of blood in the urine

Inpatient procedures include:

* Transurethral resection of the prostate (TURP): It is the most commonly used surgical treatment for BPH. The doctor inserts a small instrument through the urethra into the prostate. The prostate is then removed piece by piece.
* Simple prostatectomy: The doctor makes an incision in the abdomen or perineum, which is the area behind the scrotum. The inner part of the prostate is removed, leaving the outer part. After this procedure, the patient may have to stay in the hospital for up to 10 days.
* Transurethral incision of the prostate (TUIP): This is similar to TURP, but the prostate isn’t removed. Instead, a small incision is made in the prostate that will enlarge the bladder outlet and urethra. The incision allows urine to flow more freely. It isn’t always required to stay in a hospital with this procedure.

Nursing care

* Monitor vital signs closely.
* Maintain patient comfort
* Monitor intake and output
* Recommend bedrest as indicated.
* Educate client on ways to improve lifestyle
* Administer appropriate medication

Client teaching

* Avoid or limit use of decongestants and antihistamines during colds and allergy outbreaks as they tighten the muscles that control urine flow and make it harder to pee.
* Do exercises to strengthen pelvic floor muscles.
* Limit amount of caffeine and alcohol taken; they make you pee more and can irritate your bladder.
* Lower the amount of fluids taken, especially before going out or to bed.
* Pee when you first feel the urge because it’s easier on your bladder.
* Stay warm. Cold can make it feel more urgent to pee.

Prostate cancer

Prostate cancer is a cancer that occurs in the prostate, it typically affects men over the age of 50 years. The cause remains unknown, although advancing age and family history are known to be contributing factors. In the early stages, the cancer cells are confined to the prostate gland. With the more aggressive types of prostate cancer, cancer cells enter the vascular and lymphatic systems early and spread to other parts of the body where they develop secondary tumours, particularly in the bones.

Symptoms

* A painful or burning sensation during urination or ejaculation.
* Frequent urination, particularly at night.
* Difficulty stopping or starting urination.
* Sudden erectile dysfunction.
* Blood in urine or semen.

Causes

It's not clear what causes prostate cancer. Doctors 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

* Age. Risk of prostate cancer increases as you age.
* Race. For reasons not yet determined, 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 men in your family have had prostate cancer, your risk may be increased. Also, if you have a family history of genes that increase the risk of breast cancer (BRCA1 or BRCA2) or a very strong family history of breast cancer, your risk of prostate cancer may be higher.
* Obesity. Obese men diagnosed with prostate cancer may be more likely to have advanced disease that's more difficult to treat.

Treatments

* Radiation therapy
* Cryotherapy
* Hormone therapy
* Chemotherapy
* Immunotherapy

Surgical interventions

* Transurethral resection of the prostate (TURP)
* Laparoscopic radical prostatectomy
* Robotic-assisted laparoscopic radical prostatectomy
* Radical perineal prostatectomy
* Radical retropubic prostatectomy

Nursing responsibility

* During bladder irrigation, assess urine output and drainage system.
* Encourage patient to void when urge is noted but not more than every 2–4 hr per protocol.
* Maintain continuous bladder irrigation (CBI), as indicated, in early postoperative period.
* Regularly check the dressing, incision and drainage for excessive bleeding. Watch out for signs of bleeding and infection.
* Assist patient to assume normal position when voiding. Instruct to stand, walk to the bathroom at frequent intervals after catheter is removed.

Client teaching

* Maintain healthy diet of fruit and vegetables
* Choose healthy foods over supplements
* Exercise regularly
* Maintain healthy weight