

Reproductive system

BPH: Is a benign enlargement of the prostate gland. It is the most common urologic problem in the male adults. One possible cause is excessive accumulation of Dihydroxytestosterone (DHT). This can stimulate cell growth and an overgrowth of prostate gland. Another possible cause is an increased proportion of estrogen (as compared to testosterone) in the blood.

Risk factors -aging, obesity (in particular increased waist circumference), lack of physical activity, alcohol consumption, erectile dysfunction, smoking, and diabetes.

Symptoms are gradual and Like UTI

Irritative symptoms, which include nocturia, urinary frequency, urgency, dysuria, bladder pain, and incontinence, are associated with inflammation or infection. **Nocturia is often the first symptom that the patient notices.**

Complications -urinary obstruction are relatively uncommon in BPH.

Digital rectal examination (DRE) : to estimate its size, symmetry, and consistency. In BPH, the prostate is symmetrically enlarged, firm, and smooth.

Prostate-specific antigen (PSA) blood test may be done to rule out prostate cancer. May be slightly elevated in BPH.

Goals of collaborative care : (1) restore bladder drainage, (2) relieve the patient's symptoms, and (3) prevent or treat the complications of BPH. Making dietary changes (**decreasing intake of caffeine, artificial sweeteners, and spicy or acidic foods**), avoiding medications such as decongestants and anticholinergics, and restricting evening fluid intake may improve symptoms.

Medical Management: Finasteride (Proscar), Dutasteride (Avodart) has the same effect on prostatic tissue. **Women who may be or are pregnant should not handle tablets due to potential risk to male fetus** (anomaly). **Tamsulosin (Flomax), alfuzosin (Uroxatral), doxazosin (Cardura). Tadalafil** has been used in men who have symptoms of BPH alone or in combination with erectile dysfunction (ED).

Transurethral microwave thermotherapy: is a surgical procedure involving the removal of prostate tissue using a resectoscope inserted through the urethra.

The cause of BPH is largely attributed to the aging process. American cancer society along with the AUA, recommends a yearly medical history and DRE for men over 50 years. Pseudoephedrine and Phenylephrine often worsen the symptoms of BPH. **Surgery result in some degree of retrograde ejaculation.** The main complications after surgery are hemorrhage, bladder spasms, urinary incontinence and infection.

Bladder irrigation is typically done to remove clotted blood from the bladder and ensure drainage of urine. The bladder is irrigated either manually on an intermittent basis or used normal saline for continuous bladder irrigation. Urine drainage should be light pink without clots. If outflow is less than

inflow, assess the catheter patency for kinks or clots. If the outflow is blocked and patency cannot be reestablished by manual irrigation, stop the CBI and notify the Primary health care provider. Soap and water is used to clean the secretions around the meatus. Clots are expected after prostate surgery for the first 24 to 36 hours. Amounts of bright red blood in the urine can indicate hemorrhage.

Catheter is often removed 2 to 4 days after surgery

Patient should urinate within 6 hours after catheter removal. Sphincter tone may be poor immediately after catheter removal, resulting in **urinary incontinence or dribbling-THIS IS COMMON**. Continence can improve for up to 12 months. Stool softeners are important to preventing constipation; avoiding heavy lifting more than 10 LB, refraining from driving or intercourse after surgery as directed by the physician, constipation, infection. ED may occur if the nerves are cut or damaged during surgery -may take up to 1 year for complete sexual function to return. The bladder may take up to 2 months to return to its normal capacity. Instruct the patient to drink at least 2 to 3 L of fluid per day and urinate every 2 to 3 hours. Caffeine products, citrus juices, and alcohol- **BLADDER IRRITANTS** should be avoided.

2. Prostate cancer: is a malignant tumor of the prostate gland. One of every six men will develop prostate cancer at some point during his life. **Prostate cancer is the most common cancer among men.** Incidence is **higher in African Americans**. Prostate cancer is usually asymptomatic in the early stages. Eventually the patient may have symptoms similar to those of BPH.

Diagnosed by PSA

A biopsy of the prostate tissue "**watchful waiting**." This strategy is appropriate when the patient has (1) a life expectancy of less than 10 years (low risk of dying of the disease); (2) a low-grade, low-stage tumor; and (3) serious coexisting medical conditions.

Prostatitis: is a broad term that describes a group of inflammatory and non inflammatory conditions affecting the prostate gland. It is one of the most common urologic disorders.

E.coli; Klebsiella, pseudomonas, enterobacter: Chlamydia trichomatis: neisseria gonorrhea.

Signs and symptoms: Fever, chills, back pain and perineal pain along with acute urinary symptoms such as dysuria, urinary frequency, urgency and cloudy urine.

3. Testicular cancer: is rare and accounts for less than 1% of all cancers found in males age 15-35 mean age 33 .

Causes: Undescended testes (cryptorchidism) or a family history of testicular cancer or anomalies. Orchitis, human immunodeficiency virus (HIV) infection, maternal exposure to exogenous estrogen patient may notice a painless lump in his scrotum, scrotal swelling, and a feeling of heaviness. The

scrotal mass usually is nontender and firm. If a testicular neoplasm is suspected, blood is obtained to determine the **serum levels of a-fetoprotein (AFP), lactate dehydrogenase (LDH), and human chorionic gonadotropin (hCG).**

TESTICULAR SELF-EXAMINATION

The scrotum is easily examined, and beginning tumors are usually palpable. Instruct and encourage every male starting at puberty to perform a **monthly testicular self examination** for the purpose of detecting testicular tumors or other scrotal.

Collaborative care of testicular cancer generally involves a radical orchiectomy (surgical removal of the affected testis, spermatic cord and regional lymph nodes.

4. Vasectomy: is the bilateral surgical ligation or resection of the ductus deferens performed for the purpose of sterilization. The procedure requires only 15 to 30 minutes and is usually performed with the patient under local anesthesia on an outpatient basis. **No change in ejaculation.**

Patient needs to use an alternative form of **contraception until semen examination reveals no sperm.** This usually requires at least 10 ejaculations or 6 weeks to evacuate sperm distal to the surgical site

5. Erectile dysfunction (ED): is the inability to attain or maintain an erect penis that allows satisfactory sexual performance. Although sexual function is a topic that many individuals are uncomfortable discussing, health care providers must be able and willing to address.

Differentiate between physiologic or psychogenic causes of ED

The goal of ED therapy is for the patient and his partner to achieve a satisfactory sexual relationship **Sildenafil, tadalafil, vardenafil (Levitra, Staxyn), and avanafil (Stendra) are erectogenic drugs.** Orally about 30 to 60 minutes before sexual activity, but not more than once a day

Female reproductive problems

1. Infertility

Infertility is the inability to conceive after at least 1 year of regular unprotected intercourse.

Factors:

Usually causing female infertility include **problems with ovulation** (anovulation or inadequate corpus luteum), **tubal obstruction or dysfunction** (endometriosis or damage from pelvic infection), and uterine or cervical factors. Obese or thin, tobacco and illicit drug.

Tubal Patency Studies: Tubal factors (occlusion or deformity) are most commonly assessed using a **hysterosalpingogram**.

This procedure consists of the radiographic visualization of the uterus and fallopian tubes by injecting a radiopaque dye through the cervix.

A postcoital test can determine whether the cervical environment is favorable for the sperm. The couple is asked to have intercourse about the time ovulation is expected and 2 to 12 hours before the office visit. Douching or bathing should be avoided before the test-sperm motility is counted.

Providing emotional support :are major responsibilities throughout infertility testing and treatment. Feelings of anger, frustration, grief, and helplessness may heighten as additional diagnostic tests are performed.

2. Abortion

Abortion is the loss or termination of a pregnancy before the fetus has developed to a state of viability. Abortions are classified as spontaneous (those occurring naturally) or induced (those occurring as a result of mechanical or medical intervention).

Miscarriage: is the common term for the unintended loss of a pregnancy.

Spontaneous abortion is the natural loss of pregnancy before 20 weeks of gestation. Fetal chromosomal anomalies may account for many miscarriages before 8 weeks of gestation. If frequent abortions suggest genetic counseling.

Beta -human chorionic gonadotropin (B-hCG) hormone and vaginal ultrasound examination of the pelvis are the most reliable indicators of viability of the pregnancy.

Induced abortion is an intentional or elective termination of a pregnancy. Induced abortion is done for personal reasons (at the request of the woman) and for medical reasons.

3. Premenstrual dysphoric disorder (PMDD)

Is the term applied when women with PMS have a severe mood disorders.

Physical symptoms: include breast discomfort, peripheral edema, abdominal bloating, sensation of weight gain, episodes of binge eating, and migraine headache.

Anxiety, depression, irritability, and mood swings are some of the emotional symptoms that women may experience. It is diagnosed only when other possible causes for the symptoms have been ruled out.

No definitive diagnostic test

Techniques for stress reduction include **yoga, meditation, and biofeedback.**

Women should avoid **caffeine, reduce dietary intake of refined carbohydrates.** Eating complex carbohydrates with high fiber, foods rich in vitamin B6, and sources of tryptophan (dairy and poultry) are thought to promote serotonin production, which improves the symptoms.

Assure the patient that her **symptoms are real, PMS exists, and she is not "crazy."**

Reducing cramping pain, backache, and migraine headache, prostaglandin inhibitors such as **ibuprofen (Motrin, Advil)** are used. **B6** supplementation. Selective serotonin reuptake inhibitors (**SSRIs**) (e.g., Sertraline [Zoloft]).

4. Dysmenorrhea:

Is abdominal cramping pain or discomfort associated with menstrual flow. The degree of pain and discomfort varies with the individual. The two types of dysmenorrhea are primary and secondary.

Primary Dysmenorrhea: no pathologic condition exists. Primary dysmenorrhea begins in the first few years after menarche, typically with the onset of regular ovulatory cycles. Primary dysmenorrhea starts 12 to 24 hours before the onset of menses. The pain is most severe the first day of menses and rarely lasts more than 2 days. Primary dysmenorrhea includes heat, exercise, and drug therapy. **Heat is applied to the lower abdomen or back. (ONLY WHEN MENSES ARE PRESENT).** NSAIDs should be started at the first sign of menses and continued every 4 to 8 hours.

Secondary Dysmenorrhea: pelvic disease is the underlying cause. Common pelvic conditions that cause secondary dysmenorrhea include endometriosis, chronic pelvic inflammatory disease, and uterine fibroids.

Treatment of secondary dysmenorrhea depends on the cause.

5. An ectopic pregnancy:

Is the implantation of the fertilized ovum anywhere outside the uterine cavity. Approximately 3% of all pregnancies are ectopic, and approximately 98% of these occur in the fallopian tube.



Risk factors:

for ectopic pregnancy include a history of **pelvic inflammatory disease, prior ectopic pregnancy, current progestin-releasing IUD, progestin only birth control failure, and prior pelvic or tubal surgery.**

Clinical manifestations:

Abdominal or pelvic pain, missed menses, irregular vaginal bleeding, morning sickness, breast tenderness and gastrointestinal disturbance.

If tubal rupture occurs, the pain is intense and may be referred to the shoulder as a result of irritation of the diaphragm by blood released into the abdominal cavity.

MEDICAL EMERGENCY

Remains the primary approach for treating ectopic pregnancies and should be performed immediate.

medical management with **methotrexate (Folex)** is being used with increasing success in patients who are hemodynamically stable and have a **mass less than 3 cm in size.**

Nursing interventions:

Monitor vitals, shock, hypo-volemia

6. Perimenopause

is a normal life transition that begins with the first signs of change in menstrual cycles and ends after cessation of menses.

With decreasing **estrogen**, hot flashes and other symptoms begin. **Hot flashes, Night sweats.** Emotional lability, Change in sleep pattern, Decreased REM sleep.

Hallmarks of perimenopause: include vasomotor instability (hot flashes) and irregular menses. A hot flash (occurs in up to 80% of all women) is described as a sudden sensation of intense heat along with perspiration and flushing. Usually present at night.

Hot flashes can be **triggered by stress** and situations that affect body temperature, such as eating a hot meal, hot weather, or warm clothing. Women who smoke are at higher risk for hot flashes.

African American women report the highest incidence of hot flashes, whereas Asian American women report the lowest number.

lack of estrogen cause decrease in lubrication. Suggest lubricants to women.

women who had taken estrogen plus progestin (Prempro) had an **increased risk of breast cancer, stroke, heart disease, and emboli**. However, these women had fewer hip fractures and a lower risk of developing colorectal cancer.

Keeping a cool environment and limiting caffeine and alcohol intake lower heat production. Relaxation techniques- **vitamin E in doses up to 800 IU**. Exercise help to reduce hot flashes. Daily calcium intake of at least 1500 mg.

Black cohosh may improve symptoms but not given in liver problems.

7. Pelvic inflammatory disease (PID):

Is an infectious condition of the pelvic cavity that may involve the fallopian tubes (salpingitis), ovaries (oophoritis), and pelvic peritoneum (peritonitis).

After one episode of PID, the risk of having an ectopic pregnancy increases 10-fold. Further damage can obstruct the fallopian tubes and cause infertility.

Antibiotics such as cefoxitin (Mefoxin) and doxycycline (Vibramycin). No intercourse three weeks -partners treated. Patient may feel guilty about having PID, especially if it is associated with an STI.

8. PCOS: Polycystic ovary syndrome

Is a chronic disorder in which many benign cysts form on the ovaries. Most commonly it occurs in women under 30 years of age and is a cause of infertility.

Cause: Due to hormonal abnormalities in which the ovaries produce estrogen and excess testosterone but not progesterone.

Irregular menstrual periods, amenorrhea, hirsutism and obesity.

Oral contraceptives are useful in regulating menstrual cycles. If the disease worse, surgeries may required.

9. Cervical cancer

The mortality rate for cervical cancer in the US women is twice as compared to African women.

Risk factors: Low socioeconomic status, early sexual activity before 17 years of age, multiple sexual partners, infection with HPV, immunosuppression and smoking.

Limiting sexual activity during adolescence, using condoms, having fewer sexual partners, and **not smoking reduce the risk of cervical cancer.**

Gardasil, Cervarix (11-13 years vaccination).

Early sign: Asymptomatic.

First sign: vaginal bleeding as the disease progresses the extent of bleeding will increase.

Women ages 21 to 65 years old should be screened with the Pap test every 3 years.

Women who have had a total hysterectomy (uterus and cervix removed) for reasons not related to cervical cancer do not need to be tested.

Women 65 and older should no longer be screened after having two or three consecutive negative Pap tests within the last 2 years.

Finding of an abnormal pap test indicates the need for follow-up:

Women with minor finding of an abnormal Pap test changes may be followed with a repeated Pap test in 4 to 6 months for 2 years.

10. Ovary cancer

It occurs most frequently in women between **55 and 65 years** of age. **White women** are at greater risk for ovarian cancer than African American women.

Women who have **mutations of the BRCA genes** have an increased susceptibility.

BRCA genes are tumor suppressor genes that inhibit tumor growth when functioning normally.

Women who have never been pregnant (**nulliparity**) are also at higher risk. Other risk factors include increasing age, high-fat diet, increased number of ovulatory cycles (usually factors associated with **early menarche and late menopause**), HT, and possibly the use of infertility drugs.

Oral contraceptives increase the risk of heart diseases but lower the risk of cervical cancer.

11.A hysterectomy (removal of the uterus)

Is performed for excision of cancerous tumors. Radiation is used to cure or control or as a palliative measure.

Brachytherapy allows the radiation to be placed internally near or into the tumor. give a cleansing enema to prevent straining at stool, which could cause displacement of the isotope. Insert an indwelling catheter to prevent a distended bladder from coming into contact with the radioactive source.

The applicator is secured with vaginal packing and is left in place for 24 to 72 hours. During treatment the patient is placed in a lead-lined private room and is on absolute bed rest. She may be turned from side to side.

Complications that may arise include fistulas (vesicovaginal, ureterovaginal), cystitis, phlebitis, hemorrhage, and fibrosis.

The most commonly occurring problems with pelvic support are **uterine prolapse, cystocele, and rectocele**.

A feeling of "**something coming down**." She may have dyspareunia, a dragging or heavy feeling in the pelvis, backache, and bowel or bladder problems if cystocele or rectocele is also present. Stress incontinence is a common and troubling problem. Kegel exercise.

A pessary is a device that is placed in the vagina to help support the uterus.

Important points to remember

1. Oral Contraceptives (Both Estrogen and Progesterone)
2. May elevate blood pressure and cholesterol (related to estrogen).
3. Increase risk of cardiac disease if patient is also smoking.
4. May impair effectiveness of concurrent use of antibiotics.
5. Are contraindicated in patients with migraine headaches and depression

STD

United States all cases of gonorrhea and syphilis, and in most states chlamydial infection, must be reported to the state or local public health authorities for purposes of surveillance and partner notification.

Factors include: greater sexual freedom, lack of barrier methods during sexual activity, and the media's increased emphasis on sexuality. Substance abuse contributes to unsafe sexual practices.

The condom is considered to be the best form of protection against STIs.

Commonly used oral contraceptives cause the **secretions of the cervix and the vagina to become more alkaline**. This change produces a more favorable environment for the growth of organisms.

1. Gonorrhea

Is the second most frequently reported STI in the United States. Most states have enacted laws that permit examination and treatment of minors without parental consent.

Neisseria gonorrhoeae, a gram-negative diplococcus. The infection is spread by direct physical contact with an infected host, usually during sexual activity vaginal, oral, or anal.

Symptoms of urethritis consist of dysuria and profuse, purulent urethral discharge developing 2 to 5 days after infection. Painful or swollen testicles may also occur. Men generally seek medical evaluation early in the infection.

The vagina acts as a natural reservoir for infectious secretions, transmission is often more **efficient from men to women** than it is **from women to men**.

People who are alcoholic: Decrease the risk of STD.

People who take drugs: Increase the risk of STD.

Treatment of gonorrhea is an IM dose of Ceftriaxone (Rocephin) or Cefixime (Suprax) Orally.

Coexisting Chlamydial and gonococcal infections has led to the addition of Azithromycin and doxycycline to the treatment regimen.

All sexual contacts of patients with gonorrhea must be evaluated and treated to prevent reinfection after resumption of sexual relations “**Ping pong effect**”.

Abstain from sexual intercourse and alcohol during treatment.

2. Syphilis

Syphilis is caused by **Treponema pallidum, a spirochete**. This bacterium is thought to enter the body through very small breaks in the skin or mucous membranes.

Not all people who are exposed to syphilis acquire the infection, since about one third become infected after intercourse with an Infected person.

Congenital syphilis is transmitted from an infected mother to the fetus in utero after the tenth Week of pregnancy. An infected pregnant woman has a high risk of a **stillbirth** or a **baby dying shortly after birth**.

Penicillin G benzathine (Bicillin) or aqueous **procaine penicillin G** is the treatment of choice for all stages of syphilis. When penicillin is contraindicated, **doxycycline or tetracycline** may be used.

Stages of Syphilis

Primary: **Chancre**

Painless indurated lesion of penis, vulva, lip, mouth, vagina and rectum.

Secondary: Occurs a few weeks after Chancre appears.

Systemic manifestations: flu like symptoms.(Malaise,fever, sore throat, headaches and fatigue).

Mucous patch in the mouth.

Weight loss, alopecia.

Tertiary : Appearances 3-20 years after initial infection.

Destructive skin gummas

Physical and mental deterioration.

Cardiac and neurological complications occurs.

3. Chlamydial infections

Incidence of chlamydia is higher in women than men. **Chlamydia trachomatis, a gram-negative bacterium.**

Anal, oral,vaginal sex

Chlamydial infection can cause fallopian tube damage, a leading cause of ectopic pregnancy and infertility. Infection in men and women can be diagnosed by testing urine or collecting swab specimens from the endocervix or vagina or urethra.

Doxycycline or azithromycin is used to treat patients and their partners. Treatment of pregnant women usually prevents transmission to the fetus. People should abstain from sexual intercourse for 7 days after treatment and until all completed a full course.

4. Genital herpes:

is caused by herpes simplex virus (HSV). It is **not a reportable** infection in most states.

HSV enters through the mucous membranes or breaks in the skin during contact with an infected person.

When a person is infected with HSV, the virus usually persists within the individual for life. Transmission of HSV occurs through direct contact with skin or mucous membranes when an infected individual is symptomatic or through asymptomatic viral shedding.

HSV type 2 (HSV-2) most frequently infects the genital tract and the perineum.

Primary infection-(initial) episode of genital herpes the patient may complain of burning, itching, or tingling at the site of inoculation. Multiple small, vesicular, and sometimes painless lesions may appear on the inner thigh, penis, scrotum, vulva, perineum.

Common trigger factors: include stress, fatigue, sunburn, general illness, immunosuppression, and menses. Although most infections are relatively benign, complications of genital herpes may involve the CNS, causing aseptic meningitis and lower motor neuron damage.

Interventions:

Using good genital hygiene and wearing loose-fitting cotton undergarments. Complete drying of the perineal area, women may use a hair dryer set on a cool setting.

Acyclovir, valacyclovir (Valtrex), and famciclovir (Famvir). These drugs inhibit viral replication

5. Genital warts

Genital warts (Condylomata acuminata) are caused by the human papillomavirus (HPV). HPV is a highly contagious STI seen frequently in sexually active young adults.

Minor trauma during intercourse can cause abrasions that allow HPV to enter the body -

May have cauliflower like masses.

Medical management:

Use of 80% to 90% trichloroacetic acid (TCA) or bichloroacetic acid (BCA).

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