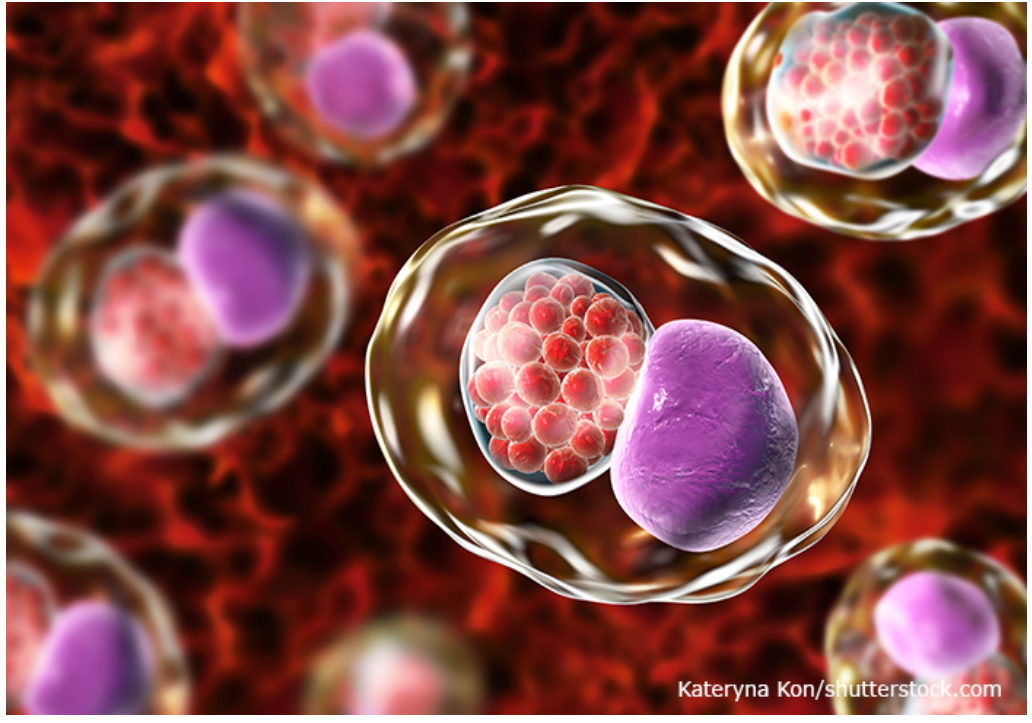
SEXUALLY TRANSMITTED DISEASE (STDs)



Done BY – Saif taifour
Zaid aljadaa

Sexually transmitted disease (STDs)

- Sexually transmitted infections (STIs) include those infections, which are predominantly transmitted through sexual contact from an infected partner.
- Although the transmission of the infection is mostly due to sexual contact, other mode of transmission include placental, blood transfusion or injected needles

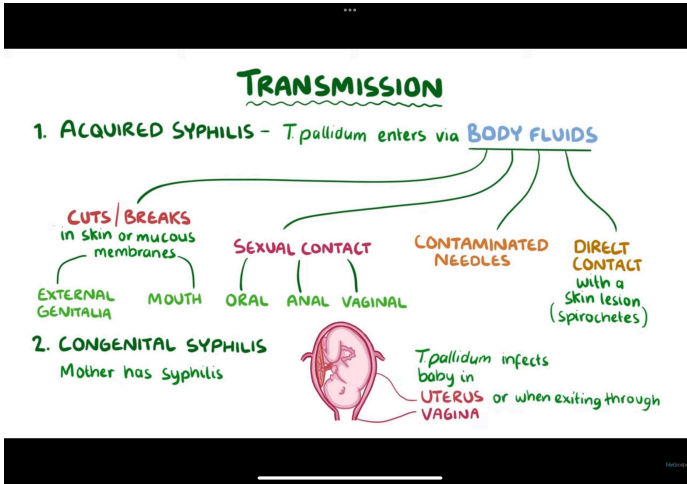
STDs includes

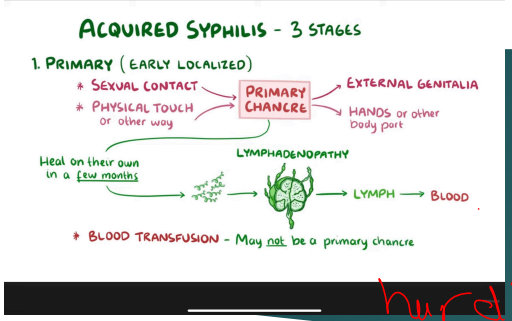
- Syphilis
- Herpes
- HIV/AIDs
- Genital Warts (causes by human papilloma virus, or HPV)
- Hepatitis B
- Chlamydia
- Gonorrhea
- Trichomonas vaginalis

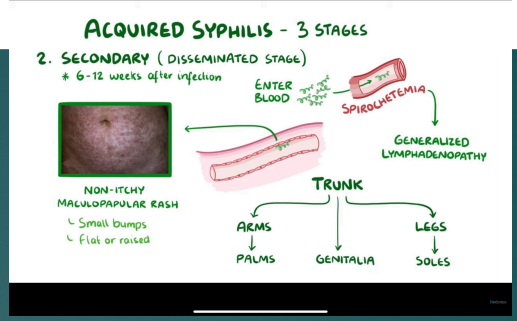
Syphilis

- Treponema pallidum, a spirochete
- A systemic illness with four stages , late stages can be prevented by early treatment.
- Clinically, most common presentations for syphilis include:

- Genital lesion (chancre)
- Inguinal lymphadenopathy
- Maculopapular rash of secondary syphilis







hard base & raised borders

1. Primary stage — filled rich in spirochetes → spread

a. **Chancre**—a painless, crater-like lesion (indurated, painless ulcer with clean base). that appears on the genitalia 3 to 4 weeks after exposure

b. Heals in 14 weeks, even without therapy

c. Highly infectious—anyone who touches the lesion can transmit the infection

2. Secondary stage

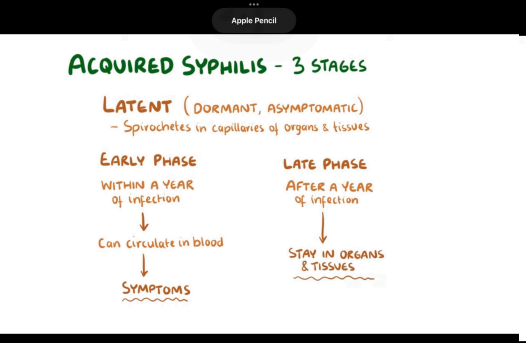
a. This may develop 4 to 8 weeks after the chancre has healed. A **maculopapular rash** is the most characteristic finding in this stage

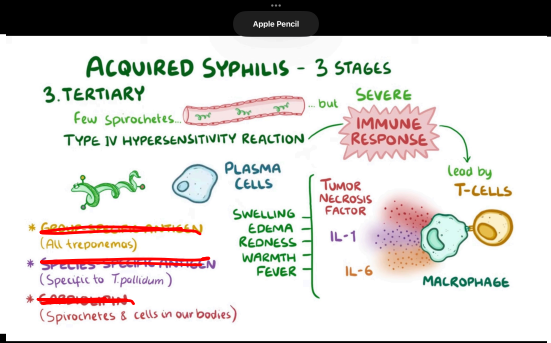
b. Other possible manifestations: flu-like illness, aseptic meningitis, hepatitis

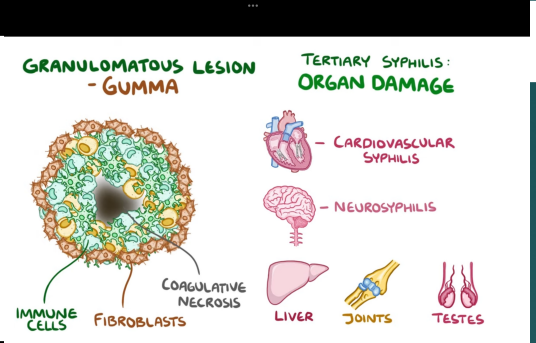
c. Patients are contagious during this stage

d. About one-third of untreated patients with secondary syphilis develop latent syphilis

resolve → weeks – months







3. Latent stage

- Latent stage is defined as the presence of *positive serologic test results in the absence of clinical signs or symptoms*.
- It is called early latent syphilis if serology has been positive for less than 1yr. During this time, the patient may relapse back to the secondary phase. why?
- It is called late latent syphilis if serology has been positive more than 1 year. Patients are not contagious during this time

4. Tertiary stage

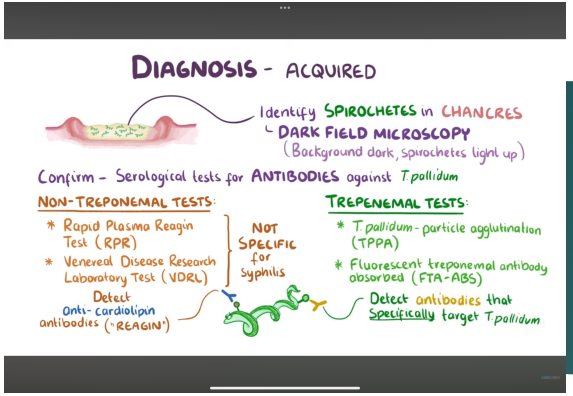
a. One-third of untreated syphilis patients in the latent phase enter this stage

b. It occurs years after the development of the primary infection (up to 40 years later) → aortic aneurysm

c. Major manifestations include: **cardiovascular syphilis, neurosyphilis, and gummas (subcutaneous granulomas)**

d. Neurosyphilis is characterized by dementia, personality changes, and tabes dorsalis (posterior column degeneration)

e. It is very rare nowadays due to treatment with penicillin



Diagnosis

1. Dark-field microscopy (definitive diagnostic test)—examines a sample of the chancre with visualization of spirochetes. May be required in patients presenting with chancre because serology might not be positive yet.

2. Serologic tests (most commonly used tests).

a. Nontreponemal tests—RPR, VDRL (most commonly used).

• High sensitivity—ideal for screening.

• Specificity is only around 70%. If positive, confirmation is necessary with the specific treponemal tests.

• False positive in SLE

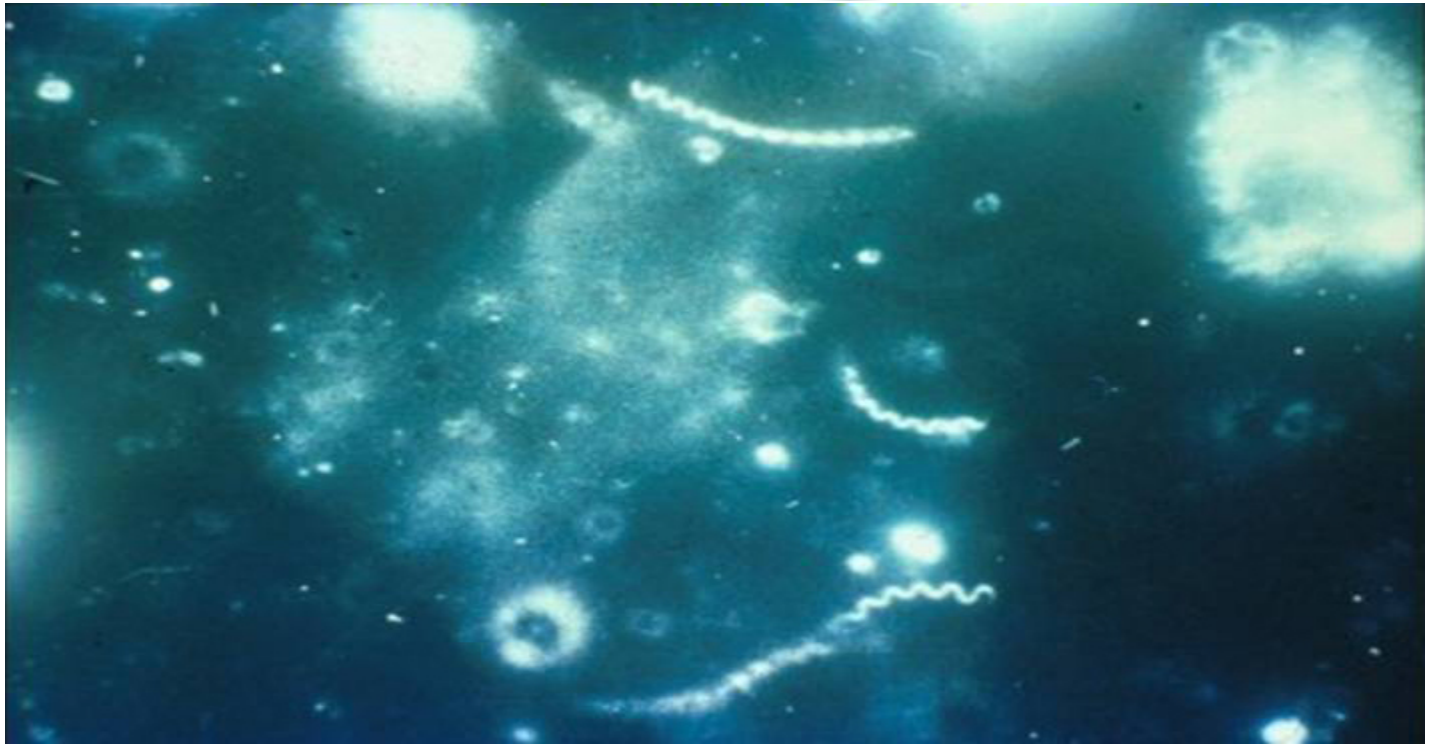
b. Treponemal tests—FTA-ABS, ~~MHA-TP~~. TPPA → detect antibodys thats are specifically for T.pallidum

• More specific than nontreponemal tests

• Not for screening, just for confirmation of a positive nontreponemal test.

3. All patients should be tested for HIV infection.

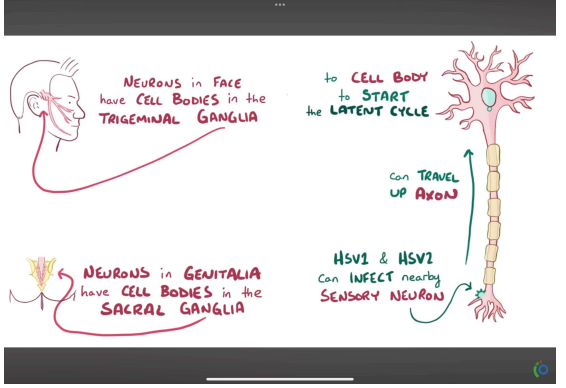
Darkfield micrograph of Treponema pallidum.



Treatment

- Antibiotics are effective in early syphilis but less so in late syphilis.
- Benzathine penicillin is the preferred agent
- If the patient is allergic to penicillin, use doxycycline, tetracycline.

Herpes simplex

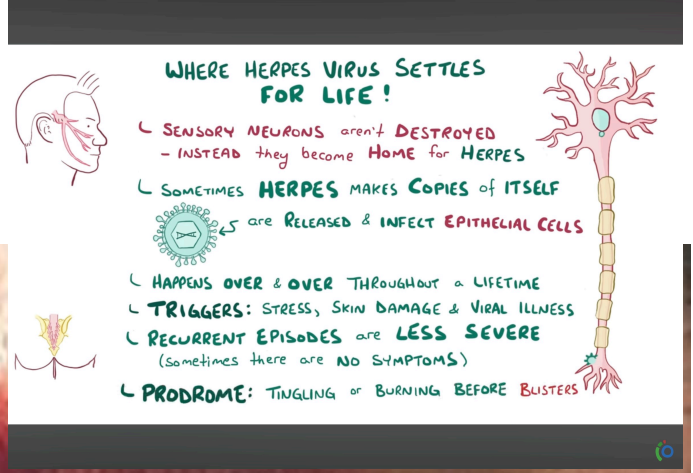


- Two types of HSV: HSV-1 and HSV-2

- HSV-1 is typically associated with lesions of the oropharynx

- HSV-2 is associated with lesions of the genitalia

- Pathophysiology: After inoculation, the HSV replicates in the dermis and epidermis, then travels via sensory nerves up to the dorsal root ganglia. It resides as a latent infection in the dorsal root ganglia , where it can be reactivated at any time and reach the skin through peripheral nerves.
- Most people acquire HSV-1 in childhood, and more than 80% of adults have been infected with HSV-1.
- Episodes of genital herpes frequently may be asymptomatic or may produce symptoms that often go unrecognized. Virus is still shed, and the infected person is contagious.
- ~~Contracting one form of herpes confers some degree of cross-immunity, rendering primary infection with the other form of herpes less severe.~~


WHERE HERPES VIRUS SETTLES FOR LIFE!
SENSORY NEURONS aren't DESTROYED - INSTEAD they become HOME for HERPES
SOMETIMES HERPES MAKES COPIES of ITSELF
are RELEASED & INFECT EPITHELIAL CELLS
HAPPENS OVER & OVER THROUGHOUT a LIFETIME
TRIGGERS: STRESS, SKIN DAMAGE & VIRAL ILLNESS
RECURRENT EPISODES are LESS SEVERE (sometimes there are NO SYMPTOMS)
PRODROME: TINGLING or BURNING BEFORE BLISTERS

Clinically

1. HSV-1

a. Primary infection is usually asymptomatic and often goes unnoticed.

b. When symptomatic, primary infection is associated with systemic manifestations (e.g., fevers, malaise) as well as oral lesions

c. Oral lesions involve groups of vesicles on patches of erythematous skin. Herpes labialis (cold sores) are most common on the lips (usually painful, heal in 2 to 6 weeks).

d. HSV-1 is associated with Bell palsy as well.

→ Paralysis and weakness of one side of the face

2. HSV-2

a. Primary infection results in more severe and prolonged symptoms, lasting up to 3 weeks in duration.

b. Recurrent episodes are milder and of shorter duration, usually resolving within 10 days. There is also a decrease in the frequency of episodes over time.

c. Constitutional symptoms (e.g., fever, headache, malaise) often present in primary infection.

d. HSV-2 presents with painful genital vesicles or pustules ,Other findings are tender inguinal lymphadenopathy and vaginal and/or urethral discharge.

3. Disseminated HSV

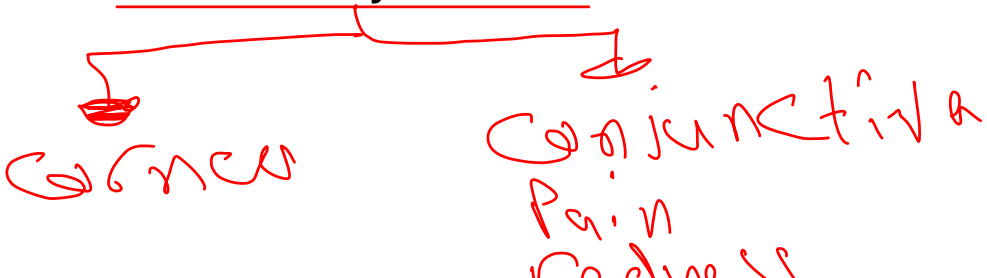
a. Usually limited to immunocompromised patients.

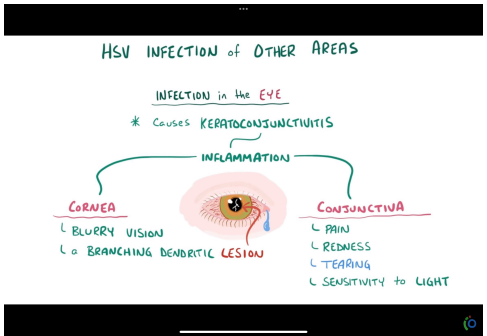
b. May result in encephalitis, meningitis, keratitis, chorioretinitis, pneumonitis, and esophagitis.

c. Rarely, pregnant women may develop disseminated HSV, which can be fatal to the mother and fetus.

4. Neonatal HSV (vertical transmission at time of delivery) is associated with congenital malformations, intrauterine growth retardation (IUGR), chorioamnionitis, and even neonatal death.

5. Ocular disease—either form of herpes simplex can cause keratitis, blepharitis, and keratoconjunctivitis.





Diagnosis

1. The diagnosis can be made clinically when characteristic lesions are recognized.

2. If there is uncertainty, following tests to confirm the diagnosis.

a. Tzanck smear—quickest test.

• This shows multinucleated giant cells. It does not differentiate between HSV and VZV

b. Culture of HSV is the gold standard of diagnosis .

c. Direct fluorescent assay and ELISA.

• 80% sensitive.

Treatment often resolve spontaniously

1. There is no cure available for either type of herpes simplex. Antiviral treatment provides symptomatic relief and reduces the duration of symptoms
2. Mucocutaneous disease

a. Treat with oral and/or topical acyclovir

b. Valacyclovir and famciclovir have better bioavailability.

c. Oral acyclovir may be given as prophylaxis for patients with frequent recurrences.

d. Foscarnet may be given for resistant disease in immunocompromised patients.

3. Disseminated HSV warrants hospital admission. Treat with parenteral acyclovir

HIV/AIDs

- Human immunodeficiency virus (HIV) causes an incurable infection that leads ultimately to a terminal disease call acquired immunodeficiency syndrome (AIDs).

- The main mode of transmission of HIV are:
  - Sexual contact (homosexual or heterosexual)
  - Transplacental
  - Exposure to infected blood or tissue fluids
  - Through breast milk.

Clinical presentation

- Acute infection syndrome is characterized by fever, skin rash, arthralgia, lymphadenopathy and diarrhea. It last less than 2-3 weeks and resolves spontaneously.
- After the initial exposure, the person remains asymptomatic for many years. The median time to develop AIDS is approximately 7-10 years. Increased the immunodeficiency, they becomes susceptible to secondary infection by opportunistic organism.

Treatment

1. Preventive
2. Definitive

Preventive measures include:

- ‘Safe sex’ practice with health education. Barrier methods (condoms and spermicides) are effective to reduce transmission (80%).
- Male circumcision (الختان) reduces transmission by 50%.
- Use of blunt tipped needles to avoid needle stick injury during surgery.

- HIV negative blood transfusion (screening of donors).
- Post-exposure prophylaxis with zidovudine and lamivudine is advisable.
- To maintain protocols for correct handling of all body fluids.

Definitive

- HIV treatment protocols change frequently.
- Antiretroviral therapy: antiretroviral drugs are grouped into-

A) Nucleoside Reverse Transcriptase Inhibitors (NRTIs):

- Zidovudine, Zalcitabine, Lamivudine, Stavudine.

B) Non-Nucleoside Reverse Transcriptase Inhibitors (NNRTIs):

- Delavirdine, Nevirapine, Efavirenz.

C) Protease Inhibitors (PI):

- Indinavir, saquinavir, Ritonavir.

D) Fusion inhibitor:

- Enfuvirtide

E) Integrase inhibitor:

- Raltegravir

- The combinations of these drugs are effective in increasing CD4 counts and reducing viral load.

- combination therapy is known by the acronym HAART (Highly Active Antiretroviral Therapy)

Genital warts

- Genital warts are a sexually transmitted infection (STI). They typically appear as fleshy growths in the tissues of the genitals.
- Genital warts are caused by certain strains of the human papillomavirus (HPV).
- Associated vaginal discharge favors their growth.

Genital warts

Treatment

- HPV vaccine can prevent 90%.
- Imiquimod (Aldara, Zyclore)- Cream. Boost immune systems, ability to fight genital warts.
- Removal of genital warts, freezing, surgical or laser removal
- Podophlylin- destroy genital wart tissue.
- Trichoracetic acid (TCA)- treatment burns of genital warts

Hepatitis B

- Globally, hepatitis B virus (HBV) infection is the most common form of chronic hepatitis around the world.
- Chronic HBV infection leads to increased risk for chronic hepatic insufficiency, cirrhosis, and hepatocellular carcinoma (HCC).
- The virus is transmitted by parenteral route, sexual contact, vertical transmission and also through breast milk.

Sign and symptoms

- Fever, fatigue, loss of appetite, nausea and vomiting
- Abdominal pain
- Dark urine
- Clay-colored bowel movements
- Joint pain
- Jaundice
- Hepatomegaly
- Symptoms begin an average of 3 months (range: 2–5months) after exposure to HBV .
- symptoms typically last for several weeks but can persist for up to 6 months.

Diagnosis

- HBsAg - used as a general marker of infection.
- HBsAb - used to document recovery and/or immunity to HBV infection.
- anti-HBc IgM - marker of acute infection.
- anti-HBcIgG - past or chronic infection.
- HBV-DNA - indicates active replication of virus.

Prevention for hepatitis B

- Advocacy and raising awareness of all types of viral hepatitis infections help to reduce transmission in the community.
- Safe and effective vaccines are widely available for the prevention of HBV infection.

Prevention for hepatitis B

- Implementation of blood safety strategies, including blood supplies based on voluntary non-remunerated blood donations, effective public education on blood donation, donor selection, and quality-assured screening of all donated blood and blood components used for transfusion can prevent transmission of HBV and HCV .

Prevention for hepatitis B

- › Infection control precautions in health care and community settings can prevent transmission of viral hepatitis as well as many other diseases.
- › Safe injection practices can protect against HBV and HCV transmission.
- › Safer sex practices.

Prevention for hepatitis B

- Harm reduction practices for injecting drug users prevent HBV transmission.
- Occupational safety measures prevent transmission of viral hepatitis to health care workers.

Chlamydia

- It is most commonly diagnosed STI, especially in under 25-year –olds,

  and is caused by the bacterium *Chlamydia trachomatis*

- Between 70- 80% of women affected by chlamydia are asymptomatic.
- The organism affect the columnar and transitional epithelium of the genitourinary tract.

  The infection is mostly localized in the urethra, Bartholin's gland and cervix.

- Incubation period is 6-14days.

Clinical features

- it is non-specific and asymptomatic in most cases (75%).
- Dysuria, dyspareunia, post-coital bleeding, and inter-menstruation bleeding, lower abdominal pain, cervical discharge, conjunctivitis, eye infections and sore throats following anal or oral sexual practices.
- If left untreated, chlamydial infection can cause pelvic inflammation disease (PID), which increases infertility and the risk of miscarriage and ectopic pregnancy.

Diagnosis

- › Methods of testing include urine test, low vaginal swab and cervical swab.

- › Chlamydia antigen can be detected by ELISA technique.

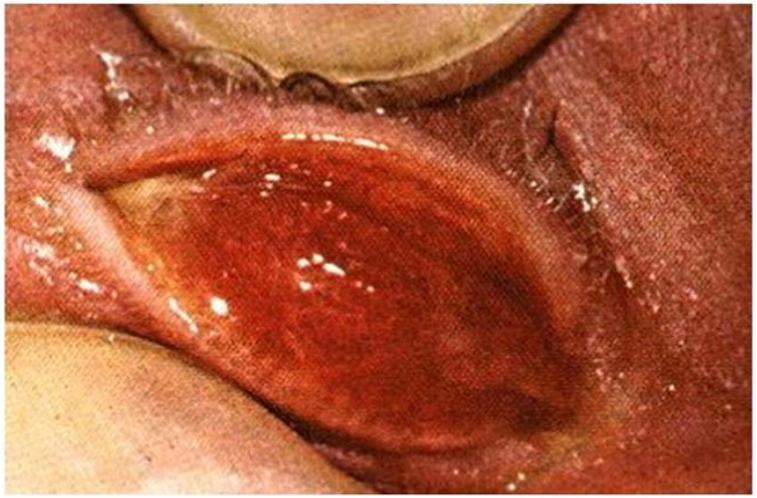
Treatment of chlamydia

- Azithromucin- 1g orally single dose
- Doxycycline – 100mg orally BID * 7days
- ofloxacin- 200 mg orally BID* 7days
- Erythromycin – 500mg orally BID* 7days
- The sexual partner should also be treated with the same drug regimen.

Gonorrhea

- Gonorrhea is common STI affecting the genital tract (especially the cervix) and rectum.
- It is transmitted by sexual activity with an infected individual and is caused by the bacterium *Neisseria gonorrhea*.
- Most infected individuals are symptomatic with signs and symptoms occurring 2-10days after the initial contact.

Gonorrhea



Gonorrhea

- Suchsymptomsincludepainfulmicturition, yellow/bloodstained vaginal discharge and post-coital bleeding.
- If untreated, in women it can cause PID, giving rise to abdominal cramps, fever and inter-menstruation bleeding, with an increased risk of ectopic pregnancy.
- Individuals are also at the risk of acquiring HIV.

Diagnosis

- Nucleicacidamplicationtesting(NAAT)ofurineorendocervical discharge done.
- In the acute phase, secretions form the urethra, Bartholin’s gland and endocervix are collected from gram stain and culture.

Treatment

- **Preventive:**
- Adequate therapy for gonococcal infection and meticulous follow up are to be done till the patient is declared cured.
- To treat adequately the male sexual partner simultaneously.
- To avoid multiple sex partner.
- To use condom till both the sexual partners are free from disease.

Curative:

The specific treatment for gonorrhea is single dose regimen of any one of the following drugs:

- Ceftriaxone- 125 mg IM
- Ciprofloxacin- 500mg PO
- Ofloxacin- 400mg PO
- Cefixime- 400mg PO
- Levofloxacin- 25o mg PO

Trichomonas vaginalis

- Itissexuallytransmitteddiseasespreadthroughskin-to-skincontact during sexual activities.
- It is caused by parasite *Trichomonas vaginalis.*
- if left untreated, a trichomoniasis infection can last for several months.
- Trichomoniasis can cause a fishy genital odor, large amounts of white, gray, or green vaginal discharge, genital itching.
- Treatment : antibiotics such as metronidazole, tinidazole