Sexually Transmitted Diseases (STD) :

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Bacterial Infective causes:

**Gonorrhoea:**

The infective cause: bacteria *Neisseria gonorrhoea*

**Route of transmission:** sexual contact:
- **Rectal infection:** occurs through receptive anal sex
- **Pharyngeal infection:** through receptive oral sex
- **Ophthalmic infection:** occurs due to inoculation from infected genital secretions
- **Neonatal infection:** occurs when the mother has endocervical infection at the time of delivery and cause *ophthalmia neonatorum*. 
Clinical features:

The Endocervical infection is asymptomatic in up to 50% of cases, and **vaginal discharge** the most common symptom **lower abdominal pain** in up to 25%.

There is an increased risk of coinfection with chlamydia and an increased risk of preterm rupture of membranes and preterm birth.

Examination:
- Is often normal, although **cervicitis** with or without a **mucopurulent discharge** may be seen on speculum exam.
- Cervical motion tenderness is common with bimanual pelvic exam.
- Ascending infection may result in PID.

Rarely, **haematogenous spread** can cause disseminated gonococcal infection with Petechial skin lesions, septic arthritis.
Diagnosis:

Testing is indicated in symptomatic women or those who have another STI.

**NAAT** tests are highly sensitive and specific, and if *N. gonorrhoea* is identified it is important to obtain a sample for culture and sensitivity testing. **Why?**

**Due to** widespread antimicrobiological resistance that requires careful surveillance.

Screening for other STIs is crucial, particularly for *C. trachomatis*, as dual infection is common.

Treatment:

Dual treatment of uncomplicated infection by parenteral **third-generation cephalosporin + azithromycin**
Gonococcemia

Mucopurulent cervical discharge

Gonococcemia
Chlamydia:

Chlamydial infection is the most common bacterial STI, with women under 25 years of age most frequently affected.

The infective cause: Chlamydia trachomatis is an obligate intracellular organism.

Clinical features:

Is often asymptomatic.

But it maybe associated with:

1. Preterm rupture of membranes
2. Preterm delivery
3. Low birthweight
Route of transmission:
Transmission to the fetus occurs at the time of delivery and can cause conjunctivitis and pneumonia.

Examination:
The classic cervical finding is mucopurulent cervical discharge. Urethral and cervical motion tenderness may or may not be noted.

Diagnosis:
Testing is indicated in women with risk factors, including a new sexual partner, or those with symptoms that include altered vaginal discharge, intermenstrual or postcoital bleeding or abdominal pain.
NAAT tests are widely available for C. trachomatis.

**Treatment:**
Treated by **azithromycin** or **doxycycline**; the benefit of the former is that it is single dose and well tolerated.

Simultaneous treatment of current and recent sexual partners is required.
Syphilis:

The infective cause: Treponema pallidum a motile anaerobic spirochete that cannot be cultured.

Route of transmission:
Direct contact with secretions from an infective lesion or via transplacental passage of the bacteria during pregnancy.
Clinical features:

In acquired early syphilis:

**Primary syphilis**: is the ‘chancre’, which develops at the site of exposure, it is a single, genital lesion painless, indurated and exudes serous fluid containing and regional lymphadenopathy occur 3–6 weeks after the infection (This resolves within a few weeks)

**Secondary syphilis**: occur 6 weeks to 6 months after infection and present as a maculopapular rash or lesions affecting the mucous membranes and general lymphadenopathy.
INFECTION WITH *T. PALLIDUM*

- Growth of organisms at site of infection, dissemination to various tissues including central nervous system

PRIMARY SYPHILIS

- Chancre at site of infection, regional lymphadenopathy

SECONDARY SYPHILIS

- Disseminated rash, generalized lymphadenopathy

LATENT SYPHILIS

- Recurrence of secondary syphilis symptoms in up to 25% of individuals

72% → NO FURTHER COMPLICATIONS

28% → TERTIARY SYPHILIS

- Gumma, cardiovascular syphilis, late neurological complications
- Ultimately 20% of untreated patients will develop symptomatic cardiovascular tertiary syphilis and 5–10% will develop symptomatic neurosyphilis.

- In pregnant women with early, untreated (primary or secondary) syphilis, 70–100% of infants will be infected and approximately 25% will be stillborn.

- Transmission of syphilis in pregnancy is associated with (IUGR), fetal hydrops, congenital syphilis (which may cause long-term disability), stillbirth, preterm birth and neonatal death.

- Adequate treatment with benzathine penicillin markedly improves the outcome for the fetus.
**Diagnosis:**

The body’s immune response to syphilis is the production be **nonspecific and specific treponemal antibodies.** These can be detected by serological tests. None of these serological tests will detect syphilis in its incubation stage, which may last for an average of 25 days.

**Non-treponemal** tests detect **non-specific** treponemal antibodies and include:

1. Venereal Diseases Research Laboratory (VDRL)
2. Rapid plasma regain (RPR)

**Treponemal tests** detect **specific** treponemal antibodies and include enzyme immunoassays (EIAs), T. pallidum haemagglutination assay (TPHA) and the fluorescent treponemal antibody-absorbed test (FTA-abs)
Non-treponemal tests, may result in false negatives, particularly in very early or late syphilis, in patients with reinfection or those who are (HIV) positive.

**Treatment:**

**Benzathine penicillin** 2.4 million units IM ×1 is given in pregnancy to ensure adequate antibiotic levels in the fetus. Even if the gravida is penicillin-allergic, she should still be given a full penicillin dose using an oral desensitization regimen under controlled conditions.

If a woman is not treated during pregnancy her baby should be treated after delivery. An infected baby may be born without signs or symptoms of disease but if not treated immediately, may develop serious problems within a few weeks.

Untreated babies often develop developmental delay, have seizures or die.
A Jarish–Herxheimer reaction may occur with treatment as a result of release of proinflammatory cytokines in response to dying organisms. This presents as a worsening of symptoms, and fever for 12–24 hours after commencement of treatment. It may be associated with uterine contractions and fetal distress. Many clinicians therefore admit women at the time of commencement of treatment for monitoring.
Secondary syphilis
Primary Syphilis
Localized — chancre

Secondary Syphilis
Systemic — condyloma lata

2/3 Latent Syphilis
- Symptoms absent
- Physical findings absent
- Positive: nonspecific tests
- Positive: trep-specific tests

1/3 Tertiary Syphilis
- Symptoms present: variable gummas in CV, CNS, bone
- Positive: blood tests
- Positive: CSF if CNS involved
Protozoan cause:

Trichomoniasis:
The infective cause: *Trichomonas Vaginitis* is an anaerobic, flagellated protozoan parasite and the cause of trichomoniasis.

Clinical features:

Most common vaginal discharge with a variable appearance and symptoms and/or signs of vulvovaginitis.

Asymptomatic infection is observed in up to 50% of women and most of their male sexual partners.

There is some evidence of an association with pregnancy outcome: preterm birth, low birthweight and maternal postpartum sepsis, although further research is required.
Examination:
- The vaginal epithelium is frequently edematous and inflamed.
- Vaginal discharge is typically frothy and green.
- The erythematous cervix may demonstrate the characteristic “strawberry” appearance.
- Vaginal pH is elevated >4.

Diagnosis:
- Gold standard is a nucleic acid amplification test (NAAT) preferably on a vaginal or endocervical swab or on urine.
- Testing is indicated in symptomatic women.
- Some NAATs also detect Neisseria gonorrhoea and Chlamydia trachomatis on the same sample; for these the optimal test is a vulvovaginal swab.
Wet Mount:
Microscopic examination reveals actively motile “trichomonads” on a saline preparation. WBCs are seen.

Treatment:
The treatment of choice is oral metronidazole for both the patient and her sexual partner. Vaginal metronidazole gel has a 50% failure rate. Metronidazole is safe to use during pregnancy, including the first trimester.
“Strawberry” cervix

Vaginal discharge is typically frothy and green
Viral STD

Viruses:

- Herpes simplex virus (HSV)
- Human papilloma virus (HPV)
- Human immunodeficiency virus (HIV)
- Hepatitis B virus
Genital herpes

Is a chronic viral infection caused by the herpes simplex virus (HSV) and is the most common ulcerative STI

Two types HSV-1 and HSV-2. Both serotypes are capable of causing either genital or oropharyngeal infection and can produce mucosal ulcers that are clinically indistinguishable from one another.

Following acquisition the virus establishes latency in the local sensory ganglia and may reactivate, resulting in Shedding of the virus, with or without symptoms

Recurrence rates are significantly higher with HSV-2 and frequency with time reduce

The majority of initial infections are asymptomatic, although the individual may still be infectious, and subsequent recurrences may be symptomatic
Clinical presentation:
☐ Extensive, painful & tender vesicles
☐ Fever
☐ Dysuria
☐ regional lymphadenopathy
Diagnosis:

- Taking a swab from the ulcer then the test of choice is a polymerase chain reaction (PCR) test that types the virus

- Type-specific serology, testing for immunoglobulin IgG and IgM to HSV-1 and -2, can be helpful in establishing whether or not an individual is at risk of infection or if the infection is primary or a recurrence
Neonatal herpe

Is a devastating infection with a mortality rate of up to 30% and to 70% consequent life long neurological morbidity in up

It is acquired during delivery if the mother has primary or non-primary initial infection within the third trimester and especially the last 6 weeks.

If there was recurrent infections in the mother, IgG from the mother can cross the placenta to the fetus and can protect him from infection. So, the risk of neonatal herpes when the mother has lesions of recurrent infection present at delivery is less than 3%

For this reason the recommended mode of delivery for women with initial herpes in the third trimester is prelabour caesarean section, and in those with proven recurrent lesions, vaginal delivery may be anticipated if other obstetric factors allow
Treatment:

- A course of acyclovir - safe and effective, including in pregnancy - most effective when given as soon as possible after symptoms develop.

- Valaciclovir

Information for patients, including the lifelong nature of the infection, asymptomatic shedding and therefore risk to sexual partners and the effectiveness of condoms and antivirals in limiting transmission, are important.
Genital warts

- It is benign epithelial tumours caused by HPV infection. It is extremely common.

There are over 100 genotypes of HPV and types 6 and 11 cause over 90% of genital warts.

Infection with the oncogenic genotypes including types 16 and 18 but these cause anogenital dysplasia and cancer, not warts.
Clinical presentation:

Most HPV infections cause no symptoms and resolve spontaneously. In some people, an HPV infection persists and results in warts and precancerous lesions.

Diagnosis:
Diagnosis is by clinical examination.
Prevention:  
HPV vaccination is available as a bivalent (against types 16 and 18) or quadrivalent (types 6, 11, 16 and 18) vaccine

Treatment:  
1) Ablative therapies such as application of liquid nitrogen or surgical techniques  
2) patient-applied topical therapies, including podophyllotoxin-containing preparations  
in pregnancy treatment is limited to ablative options  
Rarely, warts may become very large and obstruct the birth canal, necessitating caesarean delivery
HIV

-It is a retrovirus spreads by infected body secretions.

-Infection with HIV results in an initial acute viral illness followed by a chronic decline in cellular immunity due to progressive depletion of CD4-positive T-lymphocytes, and eventually resulting in one or more illnesses defined as the acquired immune deficiency syndrome (AIDS)

-originating from sub-Saharan Africans and their partners, homosexual men and intravenous drug users without access to clean injecting equipment
Diagnosis:
serology for HIV antibodies in combination with p24 antigen

complications:
Maternal:
- Women with HIV infection are more likely to have infection with HPV 16 or 18 and have a higher prevalence and incidence of CIN. Annual cervical cytology is recommended.
- Pregnancy does not enhance progression to AIDS.
Fetal:

- Transmission is mainly by the contact with genital secretions during vaginal delivery, but transplacental transmission may occur.
- Prophylactic Azidothymidine lowers vaginal transmission rate
- CS without labor and before membrane rupture significantly lowers transmission rate
- We use it specially in women with low CD4 and high viral loads
- Effective antiretroviral therapy, ensuring an undetectable viral load in serum towards the end of pregnancy, provides excellent protection of the neonate
- Intervention that disrupts the placenta (for example, amniocentesis) increase the risk of transmission
- Scalp electrodes, forceps & vacuum extractor should be avoided
Neonatal:
- Neonates of HIV-positive women will have positive test due to transplacental passive IgG passage
- HIV-infected milk transmits the disease. Breastfeeding should be avoided.
- Progression to AIDS is more rapid in infants than adults.

Treatment:
Combination of triple antiviral HAART (highly active antiretroviral therapy) includes: 2 nucleotide reverse transcriptase inhibitors (NRTI) with a NNRTI or protease inhibitor (e.g., zidovudine, lamivudine or ritonavir).
Contraceptions & antiretrovirals:

- Many antiretrovirals interact with hormonal contraceptives, resulting in reduced contraceptive efficacy.

- Non-hormonal contraception such as condoms and IUDs are appropriate in most circumstances.
Hepatitis B virus

- Spread by infected body secretions (contaminated needles, sexual intercourse & perinatal)

- Most infections are asymptomatic

**Diagnosis:**
serology for hepatitis B core antibody or HBsAg
Maternal infection:

- Asymptomatic infection: the majority of patients are asymptomatic with no impact on maternal health. HBsAg is the screening test if positive, follow up with complete hepatitis panel & liver enzymes assessing for active or chronic hepatitis.

- Acute hepatitis: presents with right upper quadrant pain. Lab tests show elevated bilirubin and liver enzymes. Most patients recover normal liver function.

- Chronic hepatitis: right upper quadrant pain. Can lead to cirrhosis and hepatocellular carcinoma.
Fetal infection:

- Transplacental transmission is rare but may occur specially in third trimester
- The main route of transmission is exposure to infected secretions during vaginal delivery
- There is no risk for transmission if the mother has positive antibody test but negative HBsAg test
- Vaginal delivery is indicated unless obstetric indication for CS
- Avoid scalp electrodes or scalp needles
Neonatal infection:

- Neonatal HBV develops in only 10% of HBsAg-positive mothers
- 80% of them will develop chronic hepatitis
- Neonates of HBsAg-positive mothers should receive passive immunization with HBIg and active immunization with hepatitis B vaccine
- Breastfeeding is acceptable after immunization

Treatment:
- No specific treatment for acute hepatitis
- Interferone or lamivudidine for chronic hepatitis
Thank You