Viral STD

DONE BY: ABDEL RAHMAN SALMAN
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 serotypes of HSV, 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 reduce in frequency with time
- 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 herpes

- Mortality rate of up to 30% and consequent lifelong neurological morbidity in up to 70%
- Acquired during delivery if the mother has 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
Management

- 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

- benign epithelial tumors caused by HPV infection
- Very common
- There are over 100 genotypes of HPV and types 6 and 11 cause over 90% of genital warts
- oncogenic genotypes including types 16 and 18 but these cause anogenital dysplasia and cancer, not warts
Clinical presentation & Diagnosis

- It is subclinical: Most HPV infections cause no symptoms and resolve spontaneously. In some people, an HPV infection persists and results in warts and precancerous lesions.
- Diagnosis is by clinical examination.
Management

- 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
- 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
### Table 9.4 AIDS-defining illnesses

<table>
<thead>
<tr>
<th>Bacterial infections, multiple or recurrent*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Candidiasis of bronchi, trachea or lungs</td>
</tr>
<tr>
<td>Candidiasis of oesophagus†</td>
</tr>
<tr>
<td>Cervical cancer, Invasive*</td>
</tr>
<tr>
<td>Cocidioidomycosis, disseminated or extrapulmonary</td>
</tr>
<tr>
<td>Cryptococcosis, extrapulmonary</td>
</tr>
<tr>
<td>Cryptosporidiosis, chronic intestinal (&gt;1 month's duration)</td>
</tr>
<tr>
<td>Cytomegalovirus disease (other than liver, spleen or nodes), onset at age &gt;1 month</td>
</tr>
<tr>
<td>Cytomegalovirus retinitis (with loss of vision)†</td>
</tr>
<tr>
<td>Encephalopathy, HIV related</td>
</tr>
<tr>
<td>Herpes simplex: chronic ulcers (&gt;1 month's duration) or bronchitis, pneumonitis or oesophagitis (onset at age &gt;1 month)</td>
</tr>
<tr>
<td>Histoplasmosis, disseminated or extrapulmonary</td>
</tr>
<tr>
<td>Isosporiasis, chronic intestinal (&gt;1 month's duration)</td>
</tr>
<tr>
<td>Kaposi sarcoma†</td>
</tr>
<tr>
<td>Lymphoid interstitial pneumonia or pulmonary lymphoid hyperplasia complex†</td>
</tr>
<tr>
<td>Lymphoma, Burkitt (or equivalent term)</td>
</tr>
<tr>
<td>Lymphoma, immunoblastic (or equivalent term)</td>
</tr>
<tr>
<td>Lymphoma, primary, of brain</td>
</tr>
<tr>
<td>Mycobacterium avium complex or Mycobacterium kansasii, disseminated or extrapulmonary†</td>
</tr>
<tr>
<td>Mycobacterium tuberculosis of any site, pulmonary,† disseminated,† or extrapulmonary†</td>
</tr>
<tr>
<td>Mycobacterium, other species or unidentified species, disseminated† or extrapulmonary†</td>
</tr>
<tr>
<td>Pneumocystis jirovecii pneumonia†</td>
</tr>
<tr>
<td>Pneumonia, recurrent†</td>
</tr>
<tr>
<td>Progressive multifocal leucoencephalopathy</td>
</tr>
<tr>
<td>Salmonella septicaemia, recurrent</td>
</tr>
<tr>
<td>Toxoplasmosis of brain, onset at age &gt;1 month†</td>
</tr>
<tr>
<td>Wasting syndrome attributed to HIV</td>
</tr>
</tbody>
</table>
Maternal complications

- 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 complications

- 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 complications

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

Non-hormonal contraception such as condoms and IUDs are appropriate in most circumstances.
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)
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 HB Ig and active immunization with hepatitis B vaccine
- Breastfeeding is acceptable after immunization
Treatment

- No specific treatment for acute hepatitis
- Interferone or lamivudine for chronic hepatitis
THANK YOU