



Human Immunodeficiency Virus (HIV) Infection

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1. Retrovirus (carries the enzyme reverse transcriptase) that has CNS involvement, long periods of clinical latency, and persistent viremia
2. Susceptible to bacterial, viral, fungal, parasitic, and mycobacterial infection and several malignancies (e.g., Kaposi's sarcoma, B-cell lymphoma, invasive cervical carcinoma)
3. Eventually affects multiple organ systems, but highly active antiretroviral therapy (HAART) makes it unlikely that pregnant patient will present with significant organ involvement
 - (a) Neurologic
 - (i) Early (initial infection): headache, photophobia, meningoencephalitis, cognitive and affective changes, cranial neuropathy, and peripheral neuropathy
 - (ii) Latent phase: demyelinating neuropathy and CSF abnormalities
 - (iii) Late (clinical AIDS): meningitis, focal brain lesions, diffuse encephalopathy, myelopathy (segmental or diffuse), peripheral neuropathy, and myopathy
 - (b) Pulmonary
 - (i) Due to opportunistic infections, mainly *P. carinii* pneumonia (PCP)
 - (ii) Clinical picture is similar to ARDS (severe hypoxia and a pattern of diffuse interstitial infiltrates on CXR)
 1. Early corticosteroids decrease likelihood of progression to respiratory failure
 2. Survival puts patients at risk for pneumatoceles, which may rupture and cause pneumothorax
 - (iii) Reactivation of latent Tb is common
 - (c) Gastrointestinal
 - (i) Painful or difficult swallowing due to herpetic, cytomegalovirus (CMV), or candida esophagitis

- (ii) Severe diarrhea due to CMV, herpes simplex virus (HSV), *Shigella*, *Salmonella*, *Candida*, *Cryptosporidia*, *Giardia*, *Mycobacterium avium* complex (MAC), or HIV itself can lead to cachexia and electrolyte disturbances
 - (iii) Hepatobiliary disease is common, including hepatitis B and C, CMV, mycobacterial infection (both *M. tuberculosis* and MAC), and *Cryptococcus*
 - (d) Hematologic
 - (i) Leukopenia, especially depletion of CD4 lymphocytes
 - (ii) Anemia
 - (iii) Coagulation disturbances, including ITP
 - (e) Cardiovascular
 - (i) Pericarditis usually due to mycobacterium
 - (ii) Pulmonary HTN may develop due to episodes of PCP
 - (iii) Clinical myocarditis or cardiomyopathy is rare
 - (iv) Infective endocarditis due to IV drugs
 - (f) Endocrine
 - (i) Abnormal thyroid function tests are common
 - (ii) Insulin resistance and diabetes are consequences of HIV infection and antiretroviral treatment
 - (g) Renal
 - (i) At risk for ARF due to sepsis, dehydration, and drug toxicity
 - (ii) HIV-associated nephropathy is characterized by focal segmental glomerulosclerosis
4. Risk factors for vertical transmission of HIV: severity of maternal disease, maternal viral burden, viral genotype, sexually transmitted diseases (STDs), substance abuse, lack of maternal antiviral therapy, chorioamnionitis, prolonged ruptured membranes, invasive fetal monitoring, vaginal delivery, forceps delivery, breast feeding, and prematurity
 5. HAART should be continued during pregnancy and is not teratogenic
 - (a) In the absence of antiretroviral therapy, the risk of vertical transmission is ~25%
 - (b) Risk reduces to 5–8% with treatment with zidovudine (ZDV)
 - (c) The risk is ~2% if treated with ZDV and undergoes scheduled cesarean delivery
 6. Women with viral load more than 1000 copies of viral RNA/ml should be counseled regarding the potential benefit of scheduled cesarean delivery to reduce the risk of vertical transmission.
 7. Neuraxial anesthesia is safe in HIV-infected parturients.
 8. High risk for having other STDs, including syphilis. Very important to perform a neurologic exam and document it prior to neuraxial anesthesia due to the neurologic effects of syphilis.