HIV-Related Conditions and Opportunistic Infections

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| Atypical mycobacterium infection                     | • Infection caused by a species of mycobacterium other than tuberculosis, such as *Mycobacterium avium intracellulare* or *Mycobacterium kansasii*  
• Disseminated type causes diarrhea, fever, and lymphadenopathy (swollen lymph nodes). |
| Brain lymphoma (primary)                             | • Primary malignancy (cancer) of the brain  
• Cause is unknown, but is more common in immunocompromised patients  
• This lymphoma is linked to Epstein-Barr virus (EBV) infection. |
| Burkitt's lymphoma                                   | • Lymph gland tumor classified as a non-Hodgkin’s type of lymphoma  
• Caused by defective immune cells called B lymphocytes |
| Candidiasis                                          | • Infection caused by *Candida albicans*  
• Occurs in people with immunosuppression diseases (e.g., AIDS) and people who have received prolonged administration of antibiotics.  
• Anatomic sites affected by Candidiasis include the following:  
  • Bronchi  
  • Esophagus  
  • Lungs  
  • Trachea |
| Cervical cancer                                      | • Malignant neoplasm of the female cervix uteri  
• Normal cervical cells usually become precancerous and then cancerous.  
• Invasive type means that the cancer has spread to healthy tissue.  
• HIV status reduces the immune system’s ability to fight infection and increases the chance of precancerous cells becoming cancerous. |
| Coccidioidomycosis                                   | • Systemic mycosis (fungal infection) caused by inhaling dust particles that contain fungi  
• Disseminated type spreads the disease to bones, brain, heart, joints, liver, lungs, meninges, pericardium, and skin and subcutaneous tissues. |
| Cryptococcosis                                       | • Acute, subacute, or chronic infection caused by the *Cryptococcus neoformans* fungus  
• Disseminated type causes cutaneous, skeletal, and visceral lesions.  
• Most common form involves the central nervous system as subacute or chronic meningitis. |
| Cryptosporidiosis (if greater than one-month duration) | • Enteric (intestinal) disease caused by waterborne *Cryptosporidium* protozoan parasites  
• Causes atrophy of intestinal villi and severe diarrhea that can be fatal |

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| Cytomegalovirus (CMV) disease (if diagnosed in other than liver, spleen, or lymph nodes) | • Herpes viruses that can remain dormant in the body for a long period  
• Immunocompromised individuals experience reactivation of the virus from the latent or dormant state.  
• Infection with CMV is a major cause of death in immunocompromised patients.  
• Common manifestations of CMV include the following:  
  • Gastrointestinal disease  
  • Pneumonia  
  • Retinitis (infection of the eyes) (with loss of vision) |
| Encephalopathy (HIV-related) | • Also called AIDS dementia complex (ADC), it is a brain disorder that is characterized by the following:  
  • Behavioral changes such as apathy, personality changes, and loss of libido  
  • Dementia characterized by decreased mental concentration, depression, loss of intellectual functions, and memory loss  
  • Motor changes such as lack of coordination, unsteady gait (walk), and weakness |
| Endocarditis | • Inflammation of the endocardium (heart lining)  
• Caused by bacteria, fungi, and vegetations (fibrinous clots) |
| Herpes simplex (if greater than one-month duration) | • Infections caused by herpes virus types 1 and 2  
• Type 1 herpes virus infection results in vesicles (fluid-filled blisters) on lips or external nares (noses).  
• Type 2 herpes virus infection results in lesions on genitalia.  
• Both types are often recurrent or become active after a dormant period. |
| Histoplasmosis | • Severe lung disease caused by *Histoplasma capsulatum* fungus  
• Disseminated type causes emaciation (extreme thinness), fever, leukopenia (abnormal reduction in leukocytes, or white blood cells), and splenomegaly (enlarged spleen). |
| HIV wasting syndrome | • Also called cachexia  
• Unintended and progressive weight loss often accompanied by fever, diarrhea, nutritional deficiencies, and weakness  
• Diagnosed in HIV-positive patients who have unintentionally lost more than 10 percent of their body weight |
| Hodgkin’s disease | • Also called Hodgkin’s lymphoma  
• Form of cancer that arises in the lymphatic system  
• Easier to treat than other types of lymphomas, which is reflected in the five year survival rate |
| Immunoblastic lymphoma | • Monomorphic proliferation of immunoblasts involving the lymph nodes  
• May develop in some patients with angioimmunoblastic lymphadenopathy |
| Isosporiasis (if greater than one-month duration) | • Disease caused by infection with *Isospora* parasite  
• HIV-positive patients develop intractable diarrhea, resulting in severe weight loss. |
| Kaposi’s sarcoma (KS) | • Malignant tumor of connective tissue  
• Involves lungs, gastrointestinal tract, skin, and other organs |
| Mycobacterium tuberculosis | • Infection caused by *Mycobacterium tuberculosis*; pulmonary type is caused by acute or chronic bacterial infection that affects lungs, but it may also affect bones, brain, kidneys, and lymph nodes.  
• Disseminated type spreads from lungs to other body organs via circulatory or lymphatic system. |
| Peripheral neuropathy | • Failure of the nerves that carry information to and from the brain and spinal cord  
• Produces pain, loss of sensation, and inability to control muscles |

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| **Pneumocystis carinii pneumonia (PCP)**       | - Also called *Pneumocystis jiroveci*  
  - Caused by *Pneumocystis carinii* fungus, which does not cause illness in healthy individuals, but leads to lung infection in immunosuppressed patients  
  - Can be life-threatening and death may occur due to respiratory failure |
| **Pneumonia**                                  | - Inflammation of the lungs due to an infection (for example, bacteria, fungi, and viruses)  
  - Outcome is poor for immunosuppressed patients. |
| **Progressive multifocal leukoencephalopathy (PML)** | - Rare nervous system disorder that affects immunosuppressed individuals  
  - Caused by a common human polyoma virus, JC virus (the letters JC represent the initials of a patient with PML from whose brain the virus was first isolated)  
  - Symptoms include mental deterioration, vision loss, speech disturbances, ataxia (inability to coordinate movements), paralysis, and coma reflecting the multifocal distribution of brain lesions; in rare cases, seizures may occur. |
| **Salmonella septicemia (recurrent)**          | - Presence of *Salmonella* bacteria in the blood (bacteremia)  
  - Often associated with severe disease  
  - Serious, rapidly progressing, life-threatening infection that can arise from infections throughout the body, including infections in the lungs, abdomen, and urinary tract  
  - Leads to septic shock and death (septic shock is a serious, abnormal condition that occurs when an overwhelming infection leads to low blood pressure and low blood flow; the brain, heart, kidneys, and liver may not function properly or may fail; decreased urine output from kidney failure may be a symptom) |
| **Sepsis**                                     | - Presence of bacterial or fungal organisms and toxins in blood and tissues  
  - Septicemia is a common type of sepsis that is caused by microorganisms and toxins circulating in the bloodstream. |
| **Septic arthritis**                           | - Inflammation of a joint caused by bacterial invasion (not the bacterium that causes gonorrhea)  
  - Develops when bacteria spread from a source of infection through the bloodstream to a joint or the joint is directly infected by traumatic penetration or surgical procedures  
  - Onset of symptoms is usually rapid with joint swelling, intense joint pain, and low-grade fever. |
| **Syphilis**                                   | - Sexually transmitted or congenital infection caused by the bacterium *Treponema pallidum*  
  - Primary syphilis is characterized by painless sores (chancres) that appear on genitals, mouth, or rectum approximately 2–3 weeks after initial exposure and enlarged lymph nodes adjacent to the chancres.  
  - Secondary syphilis is the most contagious stage in which bacteria have spread throughout the bloodstream. Symptoms include skin rash on palms and soles; lesions in mouth or vagina or on penis (called mucous patches); and moist, warty patches on genitalia or skin folds (condylomata lata).  
  - Tertiary syphilis is the late stage in which the bacterial spirochetes continue to reproduce for years, causing accumulation in bones, skin, nervous tissue, heart, and arteries; lesions called gummas develop and are very destructive; at this stage, the patient has developed neurosyphilis because the syphilis was untreated and the brain and spinal cord are now infected. |
| **Toxoplasmosis**                              | - Infection with the *Toxoplasma gondii* protozoan intracellular parasite  
  - Affects the brain, lung, heart, eyes, or liver  
  - In HIV patients, brain lesions are associated with fever, headache, confusion, seizures, and abnormal neurological findings.  
  - HIV patients also develop retinal inflammation, causing blurred vision. |