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# HIV for Psychiatrists

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## Key Tasks for the Psychiatrist:

- **Monitor for neuropsychiatric complications:** HIV can affect the nervous system, leading to cognitive impairments, mood disorders, and psychotic disorders.
- **Assess adherence to antiretroviral therapy (ART):** Non-adherence can lead to treatment failure and the development of resistant HIV strains.
- **Address psychiatric comorbidities:** Patients with HIV are at increased risk for depression, anxiety, and substance use disorders.
- **Evaluate psychotropic medications:** Consider the potential interactions between psychotropic medications and ART.

**Pathophysiology:** HIV (Human Immunodeficiency Virus) targets the immune system, specifically CD4+ T cells, leading to their gradual depletion. This impairment of the immune response makes the body more susceptible to infections and certain cancers. The virus can also cross the blood-brain barrier, affecting the central nervous system and potentially leading to neurocognitive disorders.

## Diagnosis:

- **Screening tests:** ELISA (enzyme-linked immunosorbent assay) followed by confirmatory Western blot or PCR (polymerase chain reaction) tests. These tests detect antibodies against HIV in the blood, allowing for early diagnosis and treatment.
- **CD4 count:** A measure of immune function; levels below 200 cells/mm<sup>3</sup> are indicative of AIDS (Acquired Immunodeficiency Syndrome).
- **Viral load:** This is a measure the amount of virus in the blood, important for monitoring treatment response. An important goal of treatment is to achieve and maintain an undetectable viral load (<20 copies/ml), as it prevents disease progression and reduces transmission risk.

## Symptoms:

- **HIV vs. AIDS:**
  - With the wide availability of antiretroviral therapy (ART), many patients with HIV will experience few symptoms. However, if left untreated, HIV can lead to the disease AIDS (Acquired Immunodeficiency Syndrome).
- **AIDS-defining conditions:**
  - Opportunistic infections
    - Pneumocystis Pneumonia (PCP): Prevalent when CD4 counts drop below 200 cells/mm<sup>3</sup>. Symptoms include shortness of breath, dry cough, fever, and fatigue.
    - Toxoplasmosis: A brain infection that presents with neurological symptoms like headache, weakness, seizures, or confusion.
    - Tuberculosis (TB): Symptoms include cough, night sweats, fever, and weight loss. Always screen for TB in HIV-positive patients.
  - Severe weight loss, neurocognitive disorders, and certain cancers: These conditions can also be indicative of AIDS. Severe weight loss, also known as wasting syndrome, neurocognitive disorders due to HIV-associated neurocognitive disorders (HAND), and cancers such as Kaposi's sarcoma and non-Hodgkin's lymphoma are considered AIDS-defining conditions.

## Treatment:

- **Vaccinations.** Ensure vaccinations are up to date, including hepatitis A and B, HPV, Covid and seasonal flu shots, to prevent infections that can be more severe in HIV + individuals.
- **Antiretroviral therapy (ART):** A combination of medications that reduce HIV viral load, maintain or increase CD4+ T cell counts, and prevent the progression to AIDS. Psychiatric patients with HIV often have poor adherence to ART. Educate your HIV+ patients about the risk of developing resistance to the medications unless they take them consistently.

- These medications are chosen based on the patient's stage of infection, co-existing conditions (e.g., liver disease, mental health conditions), treatment history, drug resistance profiles, drug interactions, pill burden, and dosage frequency. Genetic testing for drug resistance is also important before choosing the right medication.
- Classes of ART medications:
  - Nucleoside Reverse Transcriptase Inhibitors (NRTIs), e.g. Tenofovir and Emtricitabine.
  - Non-Nucleoside Reverse Transcriptase Inhibitors (NNRTIs), e.g. Efavirenz, often used initially.
  - Protease Inhibitors (PIs): e.g., Darunavir.
  - Integrase Strand Transfer Inhibitors (INSTIs): e.g., Dolutegravir, often used due to fewer side effects and interactions.
- **Prevention of opportunistic infections:** Prophylactic treatments based on CD4 count and exposure risks.

### Psychiatric Aspects:

- **Major Depression**

- Assessment

- Some symptoms commonly associated with depression, like fatigue and poor concentration, might be side effects of medications (like efavirenz and corticosteroids) used in HIV/AIDS treatment. If the patient's mood changes began shortly after initiating a new medication for HIV, work with the Infectious Disease service to reassess and potentially modify the patient's treatment regimen.
- Alternatively, depressive-like symptoms might reflect HIV-associated neurocognitive impairment rather than depression.
- If a patient's HIV infection is well controlled and their viral load is undetectable, treat any depressive symptoms as primary depression. In patients with more advanced infections or poor compliance with treatment, lethargy and cognitive impairment may be secondary to the HIV infection rather than depression.

- Medications

- Selective Serotonin Reuptake Inhibitors (SSRIs): First-line therapies for the treatment of depression and anxiety in patients with HIV.
- Tricyclic Antidepressants: Beneficial for patients with diarrhea and wasting but their anticholinergic properties can produce or exacerbate cognitive impairment.
- Mirtazapine: Stimulates appetite without producing anticholinergic side effects.
- Bupropion: Helpful in cases where fatigue and impaired concentration are primary symptoms, but its dose-dependent seizure risk complicates treatment in patients with neurologic complications from HIV (e.g., cerebral toxoplasmosis).
- Psychostimulants: Modafinil, methylphenidate, and dextroamphetamine can be helpful adjunctive treatments for fatigue and apathy.

- **Cognitive impairment**

- Neuropsychiatric complications can lead to AIDs related neurocognitive disorder. Consider neuropsychiatric screening tests, such as the MoCA.

- **Anxiety**

- Assessment

- Evaluate whether a patient's symptoms of anxiety stem from an anxiety disorder or are secondary to medical conditions linked to HIV, like chronic illnesses or opportunistic infections. These health issues can cause symptoms (e.g., night sweats and difficulty breathing) that mimic those of anxiety disorders. Similarly, side effects from certain antiretroviral drugs, including

insomnia, restlessness, and heart palpitations, can be confused with an anxiety disorder. If symptoms appear to be directly related to medical conditions or medication side effects, address these underlying causes.

- Treatment
  - SSRIs and SNRIs are generally safe and effective for treating anxiety in HIV-infected patients, but monitor for potential interactions with ART.
  - While benzodiazepines can be effective for the temporary relief of acute anxiety symptoms, use them cautiously due to their risks of dependency, withdrawal, and potential interactions with some ART medications.
  - Use Cognitive-Behavioral Therapy (CBT) and other psychotherapeutic approaches as first-line treatments or adjuncts to medication, particularly for mild to moderate anxiety or when pharmacotherapy is contraindicated or limited by drug interactions.
- **Substance Use disorders**
  - Assessment
    - Evaluate the presence and extent of substance use, including alcohol, illicit drugs, and non-medical use of prescription medications. Assess how the substance use impacts on the patient's HIV management, including adherence to ART.
  - Treatment
    - Medication-Assisted Treatment (MAT): For opioid use disorder, use methadone, buprenorphine, or naltrexone, mindful of their interactions with ART -- especially with methadone. For alcohol use Disorder, consider prescribing naltrexone or acamprosate.
    - Screen for kidney and liver function in patients on MAT and ART to prevent drug-induced hepatotoxicity and nephrotoxicity and to adjust treatments as necessary.
    - Behavioral therapies such as Cognitive-Behavioral Therapy (CBT), Motivational Interviewing (MI), and contingency management help address substance use and promote adherence to HIV treatment.
    - At discharge, arrange for outpatient support groups and community resources, including 12-step programs.
- **Potential interactions between psychiatric medications and ART:**
  - Protease inhibitors inhibit the CYP3A4 enzyme, leading to elevated plasma concentrations of several psychiatric medications, while non-nucleoside reverse transcriptase inhibitors (NNRTIs), induce CYP3A4 activity, thereby reducing the levels.
  - Carbamazepine is a potent inducer of CYP3A4, which can decrease the levels of some protease inhibitors and NNRTIs.