Foundations Frameworks

Approach to HIV/AIDS

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- HIV vs. AIDS
  - Human Immunodeficiency Virus attacks hosts T cells causing an immunocompromised state
  - AIDS is defined as a CD4 counts < 200 or presence of an AIDS-defining illness
- Identify acute HIV infection
  - Acute HIV infections are often misdiagnosed as viral syndromes, typically present with nonspecific fever, fatigue, pharyngitis, viral rash, N/V/D, headache, and lymphadenopathy
  - Symptoms typically develop 2-4 weeks post exposure
  - Evaluate for high risk behaviors for contracting HIV: sexual (men who have sex with men, unprotected intercourse with multiple partners), sharing needles for injection drug use, maternal-fetal transmission
  - Send screening tests from ED in patients at high risk for HIV/AIDS
    - ELISA: screening test, measures antibody response to virus, turns positive after 3-12 weeks; if positive → confirm with Western Blot test
    - Antigen/Antibody test: turns positive 10-25 days post exposure
- Evaluate and treat based on presenting symptoms
  - All patients:
    - Send CD4 counts/viral load
    - Increased risk of opportunistic infections, especially with CD4 < 200
    - Don't forget to always consider/treat for common bacterial pathogens – the same dangerous pathogens that infect immunocompetent patients also affect AIDS/immunosuppressed patients, so start empiric broad-spectrum antibiotics in patients with suspected infection
  - Neurologic complaint: altered mental status, headache, focal neurologic deficits
    - These patients need a CT brain (to rule out mass lesion), followed by an LP to rule out meningoencephalitis
    - Cryptococcus:
      - Patients at risk with CD4 < 100
      - Can cause focal cerebral lesions or diffuse meningoencephalitis
      - Diagnose with serum cryptococcal antigen, CSF cryptococcal antigen, India ink stain
      - Treat with IV amphotericin B and PO flucytosine
    - Toxoplasmosis
      - Common cause of focal encephalitis in AIDS patients, occurs when CD4 < 100
      - Subcortical ring-enhancing lesions seen on CT brain
      - Treat with Bactrim or pyrimethamine, sulfadiazine, folinic acid
    - Progressive Multifocal Leukoencephalopathy (PML)
      - Caused by JC virus leading to demyelination
      - Presents with progressive neurologic deficits over weeks to months
      - Multiple foci of disease seen on CT
      - May improve with treatment of underlying AIDS, treatment is otherwise supportive
    - Other etiologies to consider: AIDS dementia, primary CNS lymphoma, neurosyphillis, CNS TB, HSV encephalitis
  - Pulmonary complaint

        - Most common cause of PNA in AIDS patient is streptococcal pneumonia
        - PCP (*Pneumocystis carinii* pneumonia or *Pneumocystis jirovecii* pneumonia)
            - Occurs when CD4 counts < 200
            - Fever, dry cough, SOB
            - XR chest – classic finding is bilateral perihilar infiltrates ("bat wing" sign), but many patients can have normal chest XR
            - Treat with Bactrim, add steroids if patient is hypoxemic (PaO2 < 70)
        - Place patient in negative airflow room to rule out tuberculosis
            - Patients with AIDS are at much higher risk of TB activation, presentation can be very subtle if patient is severely immunosuppressed
    - Eye complaint
        - CMV retinitis:
            - Presents with changes in vision - decreased acuities, visual field cuts, red/painful eye
            - Requires urgent ophthalmology consult and IV ganciclovir
    - Dysphagia
        - Evaluate for CMV vs HSV vs *Candida* esophagitis
        - Typically presents with CD4 counts < 100
        - Consult gastroenterology for EGD to evaluate for CMV and HSV; presumptively treat for esophageal *Candida* with oral fluconazole
    - Diarrhea
        - Send stool leukocytes, bacterial culture, ova and parasites, acid fast stain, *C. difficile* toxin
        - Numerous opportunistic infections (*Cryptococcus, Cryptosporidium, Isospora*) can cause diarrhea depending on level of immunocompromised state
        - If HDS, well appearing, tolerating PO, can often follow-up as outpatient; admit patients for further management if ill and/or severely dehydrated

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