Morning Rounds Cases and Therapeutics: HIV

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Patient History

- 28 yo black male
- Partner recently tested positive for HIV 4/2019
- **Pt tested positive for HIV 5/2019**
- Denies taking meds for PrEP, PEP, nor tx.
- Last known NEGATIVE HIV test ~2010
- **Pt diagnosed with Syphilis** – RPR 1:64 as of 6/19
- Feels well today but does mention some "throat scratchiness“
- Smoking 1ppd and interested in Chantix; tried patches and gum w/ no relief previously.

PMH:

- HIV/AIDS (dx ~5/2019 "at my primary doctor"; reason for test = HIV+ partner ; last known negative ~2010; RF: MSM; CD4 nadir: 143)
- HLA-B*5701 = negative
- Oral candidiasis 6/13/19
- denies STI hx
- Asthma - well controlled with albuterol once a month

ALL: Penicillin (hives)

Fam Hx:

- HTN, DM, dyslipidemia both sides of family
- Heart issues - Dad's side

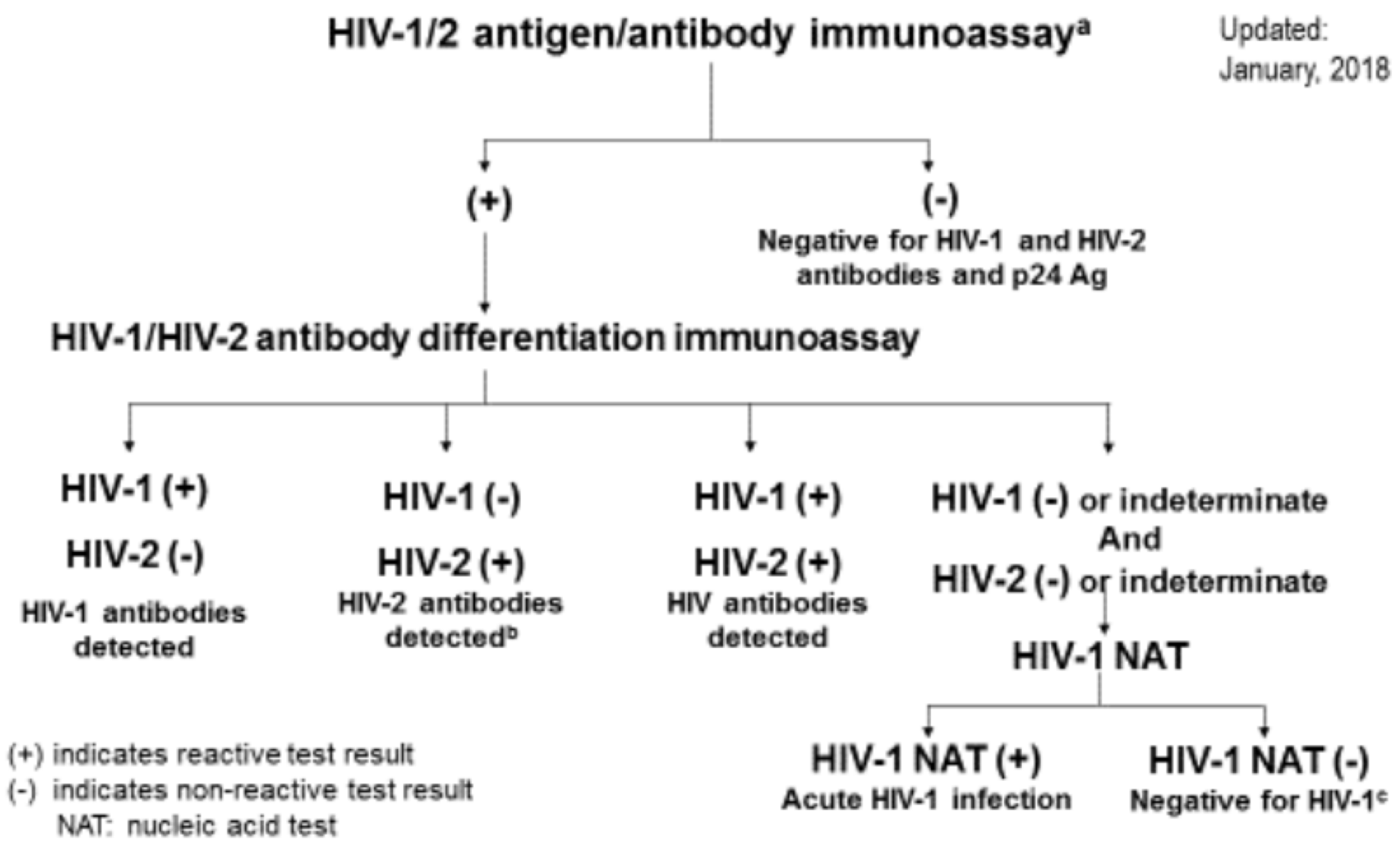
Social Hx:

- Illicits: marijuana
  Tobacco: 1 ppd, tried gum and patches
  EtOH: socially
  Sexually Active: yes

Medication List (including OTC/Herbals):

- Chantix 1 po BID
- Albuterol HFA 1-2 puffs q4-6 hours prn (states uses ~1x / month)
- Antiretroviral (ARV) Hx: tx naïve

Recommended Laboratory HIV Testing Algorithm for Serum or Plasma Specimens



https://stacks.cdc.gov/view/cdc/50872

HIV Drug Classes

- Non-nucleoside reverse transcriptase inhibitors (NNRTIs)
- Nucleoside reverse transcriptase inhibitors (NRTI)
- Protease inhibitors (PI)
- Fusion inhibitors
- CCR5 antagonists
- Integrase strand transfer inhibitors (INSTI)
- Post-attachment inhibitors

➢ Pharmacokinetic enhancers/ boosters: cobicistat, ritonavir

Treatment-naive patients generally begin with two NRTIs plus a third drug that is either an INSTI, NNRTI, or PI, plus a pharmacokinetic enhancer either cobicistat or ritonavir

The Panel on Antiretroviral Guidelines for Adults and Adolescents: Recommended Initial Regimens for Most People with HIV

- Bictegravir/tenofovir alafenamide/emtricitabine
- Dolutegravir/abacavir/lamivudine—only for individuals who are HLA-B*5701 negative and without chronic hepatitis B virus coinfection
- Dolutegravir plus (emtricitabine or lamivudine) plus (tenofovir alafenamide or tenofovir disoproxil fumarate)
- Dolutegravir/lamivudine—except for individuals with HIV RNA >500,000 copies/mL, HBV co-infection, or in whom ART is to be started before the results of HIV genotypic resistance testing for reverse transcriptase or HBV testing are available
- Raltegravir plus (emtricitabine or lamivudine) plus (tenofovir alafenamide or tenofovir disoproxil fumarate)

https://aidsinfo.nih.gov/contentfiles/lvguidelines/adultandadolescentgl.pdf

Considerations when choosing HIV medications

- Other diseases/ conditions
- Side effects of HIV medications
- Interactions between all medications patient will be on
- Results of drug-resistance testing
- Convenience and ability to adhere to regimen combination pills to reduce pill burden may be useful
- Cost

HIV Treatment Goals

- Non detectable viral load (<40 copies of virus/ mL of blood per CDC)

- CD4/ T cell count above 500 cells per cubic millimeter of blood
  - AIDS diagnosis is below 200

CDC Guidelines for Treatment of Syphilis among Persons with HIV

- Diagnosis requires two tests:
  - Treponemal tests: detect antibody to Treponemes pallidum proteins, results reported as reactive or nonreactive
  - Nontreponemal tests (ex: RPR test): detect antibodies directed against lipoidal antigens, damaged host cells, and possibly from treponeme, results reported as semiquantitative and reflect activity of infection

- Treatment for syphilis is same for people with or without HIV infection

- Recommended regimen: Benzathine penicillin G, 2.4 million units IM one time
  - Higher doses and longer treatment duration of three doses may be required for persons with latent syphilis of unknown duration, late latent syphilis, and tertiary syphilis

- Major concern is neurosyphilis and CSF abnormalities
  - Pts with HIV and syphilis and have CD4 count of ≤350 cells/mL and/or an RPR titer of ≥1:32 are associated with CSF abnormalities and may look like neurosyphilis

- Pt with both HIV and syphilis infections should be checked for tx failure at months 3, 6, 9, 12, 24, and should be rescreened semiannually

CDC Guidelines for Treatment of Syphilis among Persons with HIV and Penicillin Allergy

- Treated same as non-HIV infected person allergic to penicillin
  - First line: penicillin desensitization then treatment

- Regimens of doxycycline 100 mg po BID for 14 days or tetracycline 500 mg QID for 14 days have been used for many years for primary and secondary syphilis
  - Use of other treatments like these two are not well studies

- Do not use azithromycin in pts with HIV

CDC and Infectious Diseases Society of America Guidelines for Treatment of Oral Candidiasis

- Antiretroviral therapy is strongly recommended to reduce the incidence of recurrent infections
- In patients with HIV this is most often observed in patients with CD4 counts <200 cells/µL
- Treatment for mild to moderate infections in the mouth or throat: clotrimazole, miconazole, or nystatin applied to the inside of the mouth for 7 to 14 days
- Treatment for severe infections: fluconazole PO or IV

Assessment and Plan: HIV/AIDS

- Pt follow up visit since starting ART in 7/2019
- Reports 100% adherence with no issues taking medication
- Recent labs show non detectable viral load, a significant reduction from month prior lab with viral load of 41,218, CD4 recovering from 143 (18%) and is now 317 (19%)
- Pt was previously prescribed Bactrim DS PO daily at last visit for PJP prophylaxis d/t CD4 <200. Pt has had a significant response to ART. Guidelines recommend continued PJP prophylaxis with Bactrim DS until CD4 count is >200 x3 months OR VL undetectable and CD4 100-200 x3-6 months. Pt does not meet either criteria.
- HIV Medication Plan: Biktarvy (bictegravir, emtricitabine, tenofovir alafenamide) #30 x3 refills, discontinue Bactrim DS

Patient Follow Up: Syphilis

- Follow up visit 10/19 pt completed 28 day course of doxycycline and endorsed adherence with all doses but RPR at visit holding at 1:64

- Later in the interview pt endorsed taking doxycycline 2 capsules daily not BID

Assessment and Plan: Syphilis

- Pt counseled on importance of timing of medication and explained that this may be why RPR is still 1:64
- Pt endorsed understanding of BID dosing and is amendable to starting doxycycline regimen again today
- Syphilis Medication Plan: doxycycline 100 mg 1 capsule BID #56

Assessment and Plan: Oral candidiasis

- Clotrimazole troche 10 mg po five times daily x14 days

Updated Medication List

Medication List (including OTC/Herbals):

1. Biktarvy (BIC/FTC/TAF) tablet: Take 1 tablet by mouth daily
2. Doxycycline 100 mg capsule: Take 1 capsule by mouth twice daily for 28 days
3. Chantix po as directed starter pack then continuing pack 1 po BID
4. Clotrimazole 10 mg troche 5x/day x14 days
5. Albuterol HFA 1-2 puffs q4-6 hours prn

All medication on list are within guidelines, however, discontinuation of Bactrim was not within guidelines

Conclusion

Patient newly diagnosed with both HIV, syphilis, and oral candidiasis around the same time. Treatment of syphilis was complicated by allergies and patient adherence. Education was provided to patient and syphilis treatment restarted correctly. HIV and oral candidiasis treatment initiated and working well.

Key Points:

- While treatment of syphilis and HIV together is generally the same as either on its own, special attention needs to be paid to CNS function
- Treatment of syphilis with penicillin is best, but there are other options if necessary

Resources

- www.cdc.gov
- www.aidsinfo.nih.gov
- www.hiv.va.gov
- www.ncbi.nlm.nih.gov
- www.hivguidelines.org
- Infectious Diseases Society of America's Clinical Practice Guideline for the Management of Candidiasis: 2016 Update by the Infectious Diseases Society of America