TB Update

Talk for HAOPS 2019 Primary Care Update Salient Points GS Murphy, MD

Although ¼ of world's population has TB, only 9100 cases/yr in US. Most are in immigrants. Particularly high risk immigrants are those from Somalia, Ethopia/Eritrea, Vietnam, Cambodia, and the Philippines.

Hawaii has 2nd highest TB rate in US with 127 cases in 2015, with 72% Pulmonary, 12% Extrapulmonary and 16% both. Most TB in Hawaii comes from residents born in Philippines, Micronesia, and Marshall Islands.

Most TB we will see is reactivation TB. Only 13% of TB in US is considered primary TB.

Risk of acquiring TB is related to time of exposure, degree of infectivity of source, and immune status. Diagnosis is considered in cough of 3+ weeks duration with fever, night sweats, weight loss, hemoptysis or chest pain.

CXR in reactivation disease typically demonstrates apical patchy or nodular infiltrates, often with cavitation. The apex of either upper or lower lobes may be involved. Primary TB is most often seen in the lower lobes. Hilar and mediastinal lymphadenopathy are clues. Unilateral pleural effusion is also suggestive.

Lab Dx: Always do three morning sputa for AFB Stain, culture and sensitivity. New NAATs are intermediate sensitivity between stain and culture. New Xpert MTB/RIF can indicate TB and assess RIF resistance gene in real time. PPV and NPV are related to clinical suspicion, so use in context.

IGRAs like Quantiferon Gold and Spotify are considered equivalent in decision making to PPD. They have advantage of no BCG cross reactivity and no boosting effect.

Interpreting PPD:

15mm is POS in anyone.
5mm is POS if immune suppressed, HIV, CXR c/w disease, or recent contact of active case.
For all other groups > 10mm is POS.

Principles of Active TB Treatment:

- Always do culture and sensitivity testing at start and each month until 2 mos negative cultures.
- Intensive phase for first 2 months: start with 4 drugs and drop ETB if no resistance to other 3.
- Continuation phase: standard is 2 drugs for 4 months given daily under DOT (6 mos total Tx). However,
  - 5d/wk under DOT is equivalent to 7d/wk
  - Less frequent duration can be done under DOT – see current tables for 3x/wk initiation phase and 3x, 2x, 1x/wk continuation phases. Do not use in HIV.
- If cavitary lesion at beginning of Tx AND still culture POS at 2 mos, EXTEND continuation phase by 3 months (total of 9 mos Tx).
- **Never add one drug to a failing Tx: Always add at least 2 drugs.**
- If you must stop Tx due to side effects of INH or RIF, stop ALL drugs and restart multiple drugs together.

For liver enzymes elevations, stop if > 5x normal or if > 3x normal plus symptoms.

Always test for HIV. And in HIV always test for TB. Consult ID Specialist of HIV-TB Coinfected.

HIV patients with respiratory symptoms should be put in isolation and TB ruled out.

Active TB pt. considered non-infectious after 2 wks Tx with 3 neg sputum AFBs.

Extrapulmonary TB is not infectious and does not require isolation.

Use corticosteroids in TB Meningitis and TB Pericarditis. They may also be useful in Immune Reconstitution Inflammatory Syndrome (IRIS)

Latent TB Regimens:

- Standard is INH 300mg qd for 9 mos, but 6 mos is sufficient if fully compliant.
- Can do INH 900 mg 2x/wk for 9 mos with DOT
- Could do once weekly for 12 weeks using INH 900 + Rifapentine 900 under DOT.

Bedaquiline (Situro) is a novel First Line drug for MDR-TB. First anti-TB drug licensed by FDA in 40 yrs (Dec 2012). Very effective but causes prolonged QT and Phase II trials had increased mortality rate for unknown reasons. $30,000 in US but much cheaper in developing countries.

Useful information available in Hawaii DOH and CDC websites.