LATENT TUBERCULOSIS INFECTION

- Latent tuberculosis infection (LTBI) is the presence of Mycobacterium tuberculosis in the body without signs and symptoms, or radiographic or bacteriologic evidence of tuberculosis (TB) disease

DIAGNOSIS OF LTBI: Tuberculin Skin Test (TST) or Interferon Gamma Release Assay (IGRA)

- PTS with HIV at risk are extremely high risk (estimated 3%-16% risk per yr) for developing active TB if infected with M tuberculosis
- Test all HIV-infected pts for LTBI at time of entry into care initial testing can be using either a TST or an IGRA. If the initial test is negative, consider re-testing with a different test when the risk for infection, progression, and a poor outcome are increased due to reactivation
- All pts with (+) test for LTBI should be evaluated for active TB (i.e. chest x-ray and clinical evaluation for pulmonary and extrapulmonary symptoms) before starting therapy for LTBI

Tuberculin Skin Test

- The Mantoux TST method is recommended and each step must be performed to increase accuracy of results
- Pts with HIV who have re-tested TST (e.g. healthcare workers, nursing home residents) may need re-testing done initially. Pts with (-) initial TST should have 2-test 1-3 weeks later; a (+) 2nd test indicates prior infection (booster effect).

Administration of TST

- Use ~1/2 inch (12mm) size tuberculin needle and tuberculin syringe
- Inject 0.1 ml of tuberculin purified protein derivative (PPD) intradermally into the inner surface of the forearm
- When done correctly, a wheal (pale elevation of skin) 10-15mm in diameter should be produced

Interpretation of TST results

- Reaction measured in 48-72 hours (must be done by properly trained healthcare professional) or pt/family/friends should not be allowed to read the test
- (+) reaction must be measured accurately for 5 days, (-) for 572 hours
- Schedule repeat TST or IGRA if pt does not return within 72 hours
- Measurment taken from unaltered palpable, hardened area, not areas of redness, across the forearm
- Report results in mm (not as “positive” or “negative”) as positive if >5mm

- Reaction of 5 mm is considered (+) in HIV-infected persons
- A (-) TST or IGRA result does not exclude LTBI as they may have a compromised immune system and may be unable to react to TST for TB infection

Reactive (-) may result from:
- Infection with nontuberculous mycobacteria
- Prior Bacillus Calmette-Guérin (BCG) vaccine (reactivity w/ time; use w/ caution in BCG recipients)
- Improper admin and/or interpretation of results

Visit www.seaect.com for additional resources on the following topics and more: • AFP Therapy in Adults & Adolescents • AFP Therapy in Pediatrics • Hepatitis in HIV/AIDS • Opportunistic Infections (OIs) in HIV/AIDS • Oral Manifestations Associated with HIV/AIDS • Pro-Exposure Prophylaxis • Non-Occupational Post-Exposure Prophylaxis (nPEP) and Occupational PEP (oPEP) • Post-Exposure Prophylaxis (PEP) in Pediatrics/Adolescents • Treatment of Sexually Transmitted Diseases (STDs) in HIV-Infected Patients

An up-to-date and downloadable PDF file is available online at www.SEAECT.com. To order the printed copy, please email jennifer.burdge@vanderbilt.edu.

If you have questions about the availability, please email clintribbe@vanderbilt.edu.

National Consultation Services

Clinician Consultation Center

Online Consultation: www.seaetc.com

- Pre-Exposure Prophylaxis 855.448.7737
  Advice to clinicians on providing antiretroviral drug therapy to HIV unaffected persons to prevent HIV infection
  Call 8 am - 5:30 pm ET Monday - Friday

- Post-Exposure Prophylaxis 888.448.4911
  Tryless answers for urgent exposure management
  Call 8 am - 7:30 am ET Monday - Friday

HIV/AIDS Management 800.933.3431

- HIV/AIDS consultation
  Call 8 am - 5:30 pm ET Monday - Friday

National Resource Center

www.aidsetc.org

Supporting HIV Educators for Healthcare Professionals.
**ACTIVE PULMONARY TUBERCULOSIS Continued**

**Immunoreconstitution Inflammatory Syndrome (IRIS)**

*Pts may worsen or have new or worsened symptoms of IRIS following initiation (more common in pts with CD4 ≤ 50 cells/mm³ and pts with higher pre-ART HIV viral load)*

*Continue both ART and anti-TB therapy while managing IRIS*

*Mild cases can be treated with ART alone while more severe cases may require corticosteroid therapy*

*Consult a TB/HIV expert as needed for IRIS*

**Therapeutic Drug Monitoring (TDM)**

*Consider therapeutic drug monitoring for TB, HIV (NNRTI, PI integrase inhibitor, maraviroc) and other interacting drugs if signs of subtherapeutic, toxic, or failure (e.g., diabetics) or possible treatment failure*

*Consider TDM if second-line TB drugs are used*

*Consult an HIV/TB expert for the assistance in managing these pts*

*Call the 24-hour TB Hotline 1-800-4TB-INFO (1-800-482-4636) for assistance*

*HIV and TB drug levels are available through many commercial labs as well as the Infectious Disease Pharmacokinetic Laboratory at the University of Florida in Gainesville (http://dislp.fcph.ufl.edu/) where expert interpretation and consultation regarding results are available*

**Drug-drug interactions with Rifampicins and ART**

*Due to significant interactions, use of Rif with a PI (boosted or unboosted) containing regimen is not recommended*

**INTEGRASE STRAND TRANSFER INHIBITORS (INSTIs)**

*Increase dosed interval (DGI) to 50 mg to be used. Use alternative to Rifampicin (RFB) in patients with certain INSTI-associated resistance substitutions or clinically suspected INSTI resistance*

*Increase rateagel (RAL) to 800 mg to be used*

*Do not combine Rif with elvitegravir (ETV) containing regimens*

**CRS INHIBITOR**

*Not recommended. If nmaravire (MVC) used, MVC 300 mg bid (with citalopram/cefpodoxime)*

*MVC 600 mg bid (without potent CYP3A inhibitor)*

**RIFABUTIN (RFB)-based Regimen with ART**

**NNRTIs**

*EFV (standard dose)*

*RFB 450-600 mg to be used in pts with a FV 300 mg 3 or more times per week (if no PI in the regimen)*

*Do not combine EFV with RFB if used with a RTV-boosted PI*

**NVP (standard dose)**

*RFB 300 mg daily or once daily (standard dose)*

*Do not combine NVP with RFB if used with a RTV-boosted PI*

**RPV**

*Increase RPV to 50 mg once daily. Do not combine RPV with RFB when RPV is used with a RTV-boosted PI*

*Include tenofovir alafenamide (TAF) in treatment regimens for diabetics or possible treatment failure*

*Consult an TB/HIV expert for the assistance in managing these pts*

*Monitor for anticyclobacillary efficacy, adverse effects, and consider TDM.*

**Ritonavir (RIT) or Cobicistat (COBI)-boosted PIs**

**Atazanavir (ATV) or ATR**

*RFB 150 mg once daily or 300 mg 3 times per week (if no PI in the regimen)*

**Darunavir (DRV) or DRV/COBI**

*Fosamprenavir (FPV) *

*Lopinavir/

*Saquinavir *

*Telaprevir *

**Unboosted PIs**

**ATV**

*RFB 150 mg once daily or 300 mg 3 times per week*

**FPV**

*No data, consider alternative ARV*

**INSTIs**

*No dosage adjustments for DRV and COBI*

*No dosage adjustments for RAL or RFB*

*Do not combine RFB with elvitegravir/cobicistat/entecavir (Stribild® or Genvoya®). If elvitegravir (Viktara®) is used with a boosted PI, refer to listing found under RTV-boosted PIs above.*

**MVC 150 mg bid (with potent CYP3A inhibitor)**

*Do not combine with RFB, may require corticosteroid therapy*

*Note: Dose RFB based on other drugs in regimen (consider TDM)*

2. Whielfi (background) Bridgewater, NJ; Sandi-Awosusi, revised December 2014.