

Navajo Area IHS Chest Clinic Guidelines

Latent Tuberculosis Infection

Who to treat --do not treat every positive PPD. Only treat those with these risk factors:

1. Patients at risk for spreading TB
 - a. *Health Care Workers with direct patient contact* (doctors, nurses, radiology and lab techs, custodians, food services, clinic secretaries, etc)
 - b. *School Employees* with student contact (teachers, cafeteria workers, school bus drivers, etc)
 - c. *Residential facility employees and residents* (nursing homes, group homes, jails, detox centers, shelters, etc)

2. Patients at personal risk for reactivating TB
 - a. 5 mm PPD cutoff:
 - i. HIV positive
 - ii. Contact of active TB case
 - iii. Fibrosis on CXR consistent with healed TB
 - iv. Immunosuppressed (>15 mg prednisone/d for >1 month, transplant, infliximab, etc) Some experts recommend sending an interferon gamma release assay in addition to performing a PPD and CXR on patients who are going on a TNF antagonist.
 - b. 10 mm PPD cutoff:
 - i. Recent immigrant
 - ii. IDU
 - iii. Resident at jail, nursing home, hospital, shelter
 - iv. DM, CKD, lymphoma/leukemia, weight loss, silicosis, gastrectomy, age < 4years old, ALD

How to treat Latent TB

Preferred Adult Regimens:

INH 300 mg po daily for 9 months or Rifampin 600 mg po daily for 4 months

1. Supplement INH with pyridoxine 50 mg po daily
2. INH can be given 900 mg po 2 or 3 times a week as DOT
3. Rifampin *cannot* be given intermittently like INH
4. INH is first drug of choice for most patients, Rifampin is a second choice and might be reserved for the patient with pre-existing hepatitis

Monitoring for toxicity

- a. Monitor the patient for symptoms of toxicity and physical exam monthly
 - i. INH: rash, neuropathy, N/V, anorexia, jaundice, lupus-like illness
 - ii. Rifampin: rash, , flu-like illness, jaundice, bleeding

- b. Monitor the LFT's monthly on INH and the LFT's and CBC monthly on Rifampin (do not rely on symptoms and signs alone due to the high prevalence of NASH and ALD in this population)
 - i. INH: transaminitis
 - ii. Rifampin: cholestasis, thrombocytopenia, leukopenia

Active TB treatment

- 1) *Treat with 4 drugs: INH, Rifampin, EMB, PZA*
 - a) Treat 2 weeks in the hospital with daily therapy then
 - b) Continue for 6 weeks with 4 drugs **always** with home based DOT
 - c) Stop EMB when the culture results show sensitivity to the other 3 drugs
 - d) Stop PZA when 8 weeks of therapy are completed
 - e) Continue therapy for 6 months total with INH and Rifampin if cultures collected at 8 weeks are subsequently negative and there were no cavities on the CXR (**always** use DOT for the duration)
 - f) Continue therapy with INH and Rifampin for 9 months total if there were cavities on the first CXR and the week 8 culture is positive (**always** use DOT for the duration)
 - g) Check an HIV serology for every case of active TB
 - h) Monitor for treatment success by checking a monthly sputum for AFB smear and culture for the duration of therapy and at completion
 - i) Obtain a follow-up chest x-ray at 2 months and at the completion of therapy.
- 2) *Monitoring for toxicity*
 - a) Monitor for INH and Rifampin toxicity as above
 - b) Monitor for EMB toxicity with a baseline color vision test and repeat as needed
 - c) Monitor for PZA toxicity by following for hepatotoxicity and gout
- 3) *Managing hepatotoxicity*
 - a) Stop INH, RIF, PZA and EMB if the ALT and AST are 5 times greater than normal regardless of symptoms.
 - b) Stop INH, RIF, PZA and EMB if the ALT and AST are 3 times greater than normal and the patient has symptoms
 - c) If drugs are stopped wait until the LFTs are almost normal (<2 times the upper limit of normal) then re-challenge sequentially with the 3 drugs to determine which drug is the cause of toxicity:
 - i) INH daily for 3 days then change to Rifampin daily for 3 days then change to PZA daily for 3 days. **Check LFT's daily**. Ethambutal can be started with the initial INH challenge since it is not hepatotoxic and continued during the rechallenge with Rifampin and pyrazinamide as a second drug.
 - ii) Call for infectious disease consultation in the event of toxicity

Contact Investigations

- 1) Test all family and social circle contacts with a PPD
- 2) Repeat PPD testing at 8-10 weeks on all contacts who are initially PPD negative
- 3) Get CXR's on the close home contacts to rule out active TB
- 4) Offer INH to the PPD positive (**greater than 5 mm**) adults and children who have not been treated for latent TB before
- 5) Offer INH to PPD negative children less than 5 years old with a clear CXR. Repeat the PPD at 8-10 weeks and if PPD negative stop INH.
- 6) Offer INH to HIV positive or other substantially immune-compromised contacts even if PPD negative.
- 7) Test all PPD positive contacts for HIV.

How to run a NAIHS Chest Clinic

- 1) Designate 1 – 2 clinics per month as the local Service Unit Chest Clinic
- 2) Run the chest clinic in conjunction with the Service Unit TB technician
- 3) The TB technician should
 - a) check that the appropriate blood work has been drawn
 - b) perform a screening review of symptoms
 - c) estimate the degree of adherence
 - d) Make phone calls or home visits to all patients who miss appointments
 - e) Give DOT to all cases of active TB and to high risk contacts such as dialysis patients or HIV positive patients.
- 4) The Chest Clinic clinician should
 - a) Monitor for signs and symptoms of toxicity
 - b) Check the LFT's and CBCs that are ordered
 - c) Review the duration of therapy at each visit eg. "5 of 9 months of INH completed"
 - d) Check an HIV serology on every active case of TB and every case of Latent TB if the patient gives verbal informed consent.
- 5) Carefully document when treatment for TB is completed in the EHR or paper problem list to avoid confusion in the future.

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November 1, 2012