

## HIV and TB

The NWT has not as yet experienced an epidemic of HIV/ AIDS. Globally, the HIV epidemic has accelerated TB rates. This has decreased TB control in populations in which both infections are prevalent. **HIV, in particular advanced HIV (AIDS), is the most potent risk factor ever identified for the progression of tuberculosis.** Health care providers, administrators, and TB controllers should strive to promote coordinated care for patients with TB and HIV, and to improve information sharing between TB control programs and HIV/AIDS programs.

### Important Considerations in a Patient with HIV and TB:

- HIV/ AIDS is an immune-compromising condition allowing easier transmission of TB and progression from LTBI to active TB disease.
- The incidence of HIV/ AIDS is increasing among Aboriginal people.
- The incidence of HIV is increasing among those born in TB-endemic countries. In 2010, one-eighth of incident cases were co-infected with HIV, 82% of whom were in the African Region (WHO).
- There is significant overlap between TB-endemic countries having both drug-resistant TB strains and drug-resistant HIV, making both difficult to treat.
- Treatment of LTBI has been shown to reduce the risk of progression to active TB disease in patients with both infections.
- The administration of BCG vaccine to HIV infected patients is contraindicated because of its potential to cause disseminated *M. bovis* disease. For this reason HIV status of the mother must be confirmed prior to administering BCG vaccine to the newborn (usually within 72 hours).
- HIV infected patients should be advised that certain activities and occupations may increase the likelihood of exposure to TB. These include volunteer work or employment in health care facilities, correctional institutions, and shelters for the homeless, as well as travel to or living in TB endemic communities or countries.
- There is no clear evidence that people infected with *M. tuberculosis* are more infectious if they are co-infected with HIV. However, there will often be rapid development of active TB disease, and HIV-related TB disease will often have atypical clinical manifestations, leading to delayed diagnosis. The increased risk of *M. tuberculosis* transmission by this population is related to the potential for delayed isolation if the index of suspicion for respiratory TB disease is low.

### Screening for HIV in TB Patients and their Contacts

All patients with newly diagnosed TB should be strongly encouraged to undergo informed HIV serological testing.

- HIV testing of contacts of patients with infectious TB should be considered if the contacts are at risk of HIV or the index case of TB is HIV co-infected.

- Health care providers caring for HIV positive people should maintain a high level of suspicion for TB.
- Every patient with newly diagnosed HIV infection should be:
  - assessed for the presence of active TB at the time of diagnosis of HIV with a TST and symptom inquiry, **NWT Tuberculosis Assessment Form**
  - assessed for adequacy of treatment in patients who report that they have received treatment of active TB or LTBI in the past (call OCPHO/TB Registry 867-920-8646 for TB history)
  - offered a physical examination that includes examination of extra respiratory sites of disease, such as lymph nodes
  - offered a CXR, serial sputa, and a TST and/or IGRA if indicated
- **TB screening with TST** (all HIV positive patients should be offered a baseline two step TST) TST should be performed as soon as possible after HIV infection is diagnosed, because the reliability of the TST can diminish as the CD4 lymphocyte count declines.
- Induration of  $\geq 5$ mm on the TST should be considered positive or indicative of TB infection.
- Additional information resources concerning HIV is available from: **Canadian TB Standards, Chapter HIV.**

## Treatment Considerations **Active** vs. **Latent** TB

Except when there is a well-documented history of completed treatment of LTBI or active TB, treatment for LTBI should be strongly recommended for every HIV infected patient with a TST reaction  $\geq 5$ mm, regardless of age or BCG vaccination status, after exclusion of an active TB diagnosis.

Those TST negative HIV positive patients with evidence of old healed TB on the CXR, especially those with a history of TB exposure, once active TB has been excluded, may have TST repeated after institution of antiretroviral treatment and evidence of immune reconstitution.

- Preventive treatment is recommended during pregnancy for HIV infected patients who have either a positive TST or a recent history of exposure to active TB, after active TB has been excluded.
- HIV infected people who are candidates for, but who decline or do not receive TB preventive treatment should be assessed every 6 months for symptoms of active TB as part of their ongoing management of HIV infection. Clinicians should educate them about the symptoms of TB and advise them to seek medical attention promptly should such symptoms develop
- DOT is required for treatment of LTBI and active TB.
- Treatment regimens for LTBI must be discussed with the Internal Medicine Specialist and the patient's HIV specialist.
- Treatment of active TB in HIV infected patients should be guided by a physician with expertise in the management of both diseases or in close collaboration with a physician who is an expert in HIV care.

Knowledge of the HIV status of TB patients may also influence the treatment of their TB. Even in those not receiving antiretroviral drugs there may be an increased risk of adverse reactions from anti-tuberculosis drugs. Because HIV infected people are at risk of peripheral neuropathy, co-administration of pyridoxine (B6) with INH may be prudent. For some HIV infected TB patients, malabsorption of their anti-tuberculosis drugs has been reported, so that measurement of serum drug levels may be necessary if there is a poor response to treatment.

The benefits of INH therapy will exceed the risks of toxicity at almost any age in an HIV-infected individual.