What is TB

Tuberculosis (simply called TB) is an infectious disease primarily caused by *Mycobacterium tuberculosis* : it affects mainly the lungs (pulmonary TB) but can attack any part of the body (extra-pulmonary TB).

Like the common cold, it spreads through the air. Only people who are sick with pulmonary TB are infectious. When infectious people cough, sneeze, talk, spit, laugh or sing they propel TB germs, known as bacilli, into the air. If a healthy uninfected person inhales air containing the bacteria, he/she can become infected.

Nevertheless tuberculosis is not considered easily transmittable because infection generally occurs from close contact with someone with TB disease for a long period of time. Overcrowding at home and at the workplace is considered an important predisposing factor.

It is important to understand that there is a difference between being infected with TB bacilli and having TB disease.

Someone who is infected with TB bacilli has the TB bacteria in his/her body, but the immune system protects him/her from developing the disease and becoming sick. He/she does not spread the disease to other people.

Someone with TB disease is sick and at risk of death. If not properly treated, he/she can spread the disease to other people and die within months or within a few years.

Who can get TB?

Anyone can get TB. It strikes people of all races, ages and income levels.

The following factors are associated with a higher risk of becoming infected:

- Close contact with people with active TB disease
- HIV infection
- Poverty
- Malnutrition
- Homelessness

The risk of developing active disease is mainly related to the immune defenses of the host. Some conditions such as AIDS, diabetes, injecting drugs use and long term therapy with corticosteroids can severely impair the immune system, thus facilitating development of the disease.

What are the symptoms?

1) A person with TB infection and without active TB disease will have no symptoms.

2) A person with pulmonary TB may have any, all or none of the following symptoms:

- Persistent cough
- Weight loss
- Fever
- Loss of appetite
- Tiredness
- Night sweats
- Shortness of breath
- Coughing up blood

3) A person with extra-pulmonary TB may have the following general symptoms:

- Weight loss
- Fever
- Night sweats

Other symptoms depend on the organs affected, for example:

- Swelling, occasionally with pus drainage when lymph nodes are affected
- Pain and swelling when joints are involved
- Headache, fever, stiffness of the neck and drowsiness when there is tuberculosis meningitis

WHAT is TB skin test?

The TB skin test is a way to help determine whether a person is infected with TB bacilli. Although there is more than one TB skin test, the preferred method is the Mantoux test.

In the Mantoux test a small amount of testing material is placed just below the top layers of the skin on the forearm through intradermal injection. Three days later a health care worker checks the arm to see if a bump has developed and measures the size of it. If the bump has a certain size the test is significant and the person is presumed to have TB infection.

However the test can be positive also for people previously vaccinated with BCG (see below). This fact can create some uncertainties in the distinction between people that test positive due to the BCG vaccination and patients that test positive being active cases. An accurate analysis of symptoms along with additional laboratory examinations is essential to complete the diagnostic process.

TB vaccination

BCG (*Bacille Calmette Guerin*) vaccination was introduced over 80 years ago and is

currently being used in almost every country. The vaccine is obtained from attenuation of a strain of *Mycobacterium bovis* and is administered through intradermal injection. Clinicians commonly agree on BCG's efficacy with children and it is widely recommended that BCG be administered as early in life as possible. The most severe forms of TB such as meningitis and miliary TB are commonly prevented by the vaccination.

The vaccine is regarded as one of the safest vaccines now in use.

TB drugs

Effective antibiotic treatment has been available since the 1940s (see history of TB). Nowadays patients can be easily cured through short-term chemotherapy under direct observation (See DOTS). The drugs that are used in the most common regimens are rifampicin, isoniazid, streptomycin, ethambutol and pirazinamide. New regimens including aminoglycosides such kanamycin, and the newer quinolones (ciprofloxacin) are only used in multidrug-resistance situations (See multi drug resistance).

Friday 25th of April 2025 01:14:36 PM