Tuberculosis

Traveler Summary

Key Points

- Tuberculosis (TB), a bacterial infection that occurs worldwide, is acquired predominantly through inhalation of airborne droplets from an infected person.
- Risk is low for most travelers but increases sharply in health care workers (HCWs) as well as in people with HIV or a weakened immune system, diabetes, and in tobacco smokers.
- Symptoms include fever, night sweats, weight loss, fatigue, cough (with or without blood), and chest pain.
- Consequences of infection include inflammation of the membranes of the lungs, brain, and spinal cord.
- Prevention (for travelers going to high-risk destinations) includes TB screening tests for long-stay travelers, HCWs, and persons with anticipated exposure in prisons, homeless shelters, refugee camps, or shanty towns. Travelers should avoid public transportation and crowded public places whenever possible at these destinations.
- Bacille Calmette-Guérin (BCG) vaccine is recommended for healthy children younger than 5 years who will be living for more than 1 year in highly endemic areas and for uninfected HCWs in high-risk settings with frequent exposure to multidrug-resistant TB.

Introduction

TB is a bacterial infection that is primarily transmitted person to person via inhalation of airborne droplets. Over 95% of cases occur in developing countries, and infection is strongly associated with poverty, overcrowding, and malnutrition. In adults, initial infection does not cause any symptoms and can only be detected with skin or blood tests. The risk of developing active TB disease after a positive skin or blood test, is usually within the first 2 years of initial infection. Certain travelers may require screening for TB at specific times before, during, or after travel.

Drug-resistant TB (which includes multidrug-resistant TB [MDR-TB] and extensively drug-resistant TB [XDR-TB]) is caused by bacteria that do not respond to powerful medicines against this infection.

Risk Areas

TB occurs worldwide, with most new cases occurring in Southeast Asia, Africa, and the Western Pacific. Most MDR-TB patients live in India, China, Central Asia, Eastern Europe, and Russia.

Transmission

TB is predominantly transmitted from person to person through inhalation of airborne droplets (e.g., by coughing or sneezing). In most instances, transmission involves patients with extensive lung disease and coughed-up mixtures of saliva and mucus containing TB bacteria.

Risk Factors

Risk of TB infection is low for most travelers (except HCWs) but increases with prevalence of TB in the area visited, duration of travel, and activity. Risk of progressing to active disease after initial infection is low in otherwise healthy people but increases sharply in persons with HIV or other causes of a weakened immune system, diabetes, and in tobacco smokers.

Activities that put travelers at risk of contracting TB in affected areas include:

- Working in high-risk situations (e.g., HCWs and persons with anticipated exposure in prisons, homeless shelters, refugee camps, or shanty towns)
- Closely interacting with the local population
- Visiting friends and relatives
- Using public transportation
- Frequenting crowded public places where infected persons may be coughing
- Employing domestic help (TB screening is recommended)
- Eating or drinking unpasteurized milk and milk products (from infected cattle)

On aircraft, a very low risk of infection exists for travelers sitting within a 2-seat range behind, in front of, or beside an infectious traveler.

Symptoms

Upon initial infection with TB bacteria, TB symptoms and active disease with pneumonia (or spread throughout the body) is uncommon in an adult with no previous TB infection but usually occurs in children younger than 5 years and in persons with severely weakened immune systems. In otherwise healthy individuals, initial TB infection does not cause any symptoms (medically referred to as latent TB infection [LTBI]) and can only be detected with skin or blood tests. Symptoms may develop later—as LTBI progresses to active TB—and may include fever, night sweats, weight loss, fatigue, cough (with or without blood), and chest pain.

Consequences of Infection

Individuals with LTBI who are otherwise healthy have an annual risk of 1 per 1,000 of developing active TB disease during their lifetime; however, risk is 1% to 2% in the first 2 years after the initial infection. In children and immunocompromised persons, TB can spread to other parts of the body causing inflammation of the membranes of the lungs, brain, and spinal cord.

Need for Medical Assistance

Persons with a known exposure to an infective case should be screened (at least 8 weeks after the exposure period) to identify those who might benefit from treatment.

Persons who develop symptoms of TB should seek immediate medical attention.

Prevention

TB Screening

Only persons who are or will be at increased risk for TB infection should be tested prior to travel to establish any baseline exposure or infection with TB. Travelers going to areas of the world where TB is highly or moderately prevalent should be considered for screening, especially:

- Those who plan to stay more than 3 months
- HCWs who stay longer than 1 month
- Individuals with anticipated exposure in prisons, homeless shelters, refugee camps, or shanty towns

Domestic helpers assisting long-stay residents in high-risk countries should be screened for TB.

Travelers should have repeat screening conducted at 1- to 2-year intervals if risk continues.

BCG Vaccination

BCG vaccine is used in many developing countries to reduce serious consequences of TB in newborns. BCG vaccine is of very limited use for travelers; pre- and posttravel TB testing is generally preferred. However, vaccination with BCG is recommended for unvaccinated infants and children younger than 5 years traveling from an area of low TB prevalence to countries with high burden of TB for more than 1 year; children with a negative TB test who are continuous contacts of highly infectious cases; and for HCWs in high-risk settings (with frequent exposure to drug-resistant TB).