Prevalence of Latent Tuberculosis Infection

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DESCRIPTION

Tuberculosis (TB) is a potentially serious infection that primarily affects the lungs. The bacteria that cause tuberculosis are transmitted from person to person through small droplets that are released into the air by coughing and sneezing.

Tuberculosis infection, which was once rare in developed countries, began to increase in 1985, partly due to the emergence of HIV, the virus that causes AIDS. HIV weakens a person's immune system and makes it impossible to fight tubercle bacilli. In the United States, tuberculosis decreased again in 1993 due to stricter control programs. But that is still a source of concern.

Many strains of tuberculosis are resistant to the drugs most commonly used to treat tuberculosis. People with active tuberculosis need to take many kinds of medicines for months to get rid of the infection and prevent antibiotic resistance.

About 10 million people worldwide suffer from tuberculosis, and by 2020, about 1.5 million people will die of tuberculosis. Tuberculosis was once the leading cause of death in the United States. According to statistics, 7,860 cases of tuberculosis were reported in the United States in 2021. The national incidence is 2.4 cases per 100,000 populations.

Tuberculosis mainly affects adults in the most productive years. However, all age groups are at risk. Over 95% of cases and deaths occur in developing countries.

People who are infected with HIV are 18 times more likely to develop active tuberculosis. The risk of active tuberculosis is also high in people with other diseases that affect the immune system. Malnourished people are at three times the risk. In 2020, there were 1.9 million new cases of tuberculosis worldwide due to malnutrition.

Alcohol intake and smoking increase the risk of developing tuberculosis by 3.3 and 1.6 times, respectively. By 2020, 740,000 new TB patients worldwide were due to alcohol use disorders and 730,000 were due to smoking.

When tuberculosis infection becomes active, it most commonly affects the lungs about 90% of cases. Symptoms include chest pain and a persistent cough with sputum. About 25% of people may be asymptomatic that is, remain asymptomatic. Occasionally, people may cough a small amount of blood, and in very rare cases the infection can spread to the pulmonary artery or Rasmussen aneurysm, causing heavy bleeding. Tuberculosis can become a chronic disease and cause extensive scarring in the upper lobes of the lungs. The upper lobes of the lungs are more frequently affected by tuberculosis than the lower lobes. The reason for this difference is not clear. This may be due to improved airflow or poor lymphatic drainage of the upper lungs.

Common symptoms of active pulmonary tuberculosis include occasional sputum and blood coughing, chest pain, weakness, weight loss, fever, and night sweats. WHO recommends the use of rapid molecular diagnostic tests as the first diagnostic test for people with signs and symptoms of tuberculosis. This is due to its high diagnostic accuracy and significant improvement in early detection of tuberculosis and drug-resistant tuberculosis. WHO's recommended rapid tests are the expert MTB/RIF ultra and truenat assays.

Diagnosis of multidrug-resistant tuberculosis and other resistant tuberculosis and HIV-related tuberculosis can be complex and costly. Tuberculosis is especially difficult to diagnose in children.

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