

A Short Note on Tuberculosis

Mohsin Shafie*

Department of Pathology, King Fahd University, Dhahran, Saudi Arabia

Opinion Article

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***For Correspondence:**

Mohsin Shafie, Department of Pathology, King Fahd University, Dhahran, Saudi Arabia

E-mail: mohsinshafie22@gmail.com

INTRODUCTION

The bacteria *Mycobacterium tuberculosis* causes tuberculosis, which is an infectious disease (MTB). Tuberculosis is most often connected with the lungs, although it can affect other parts of the body as well. The majority of tuberculosis infections are asymptomatic, known as latent tuberculosis. If left untreated, roughly 10% of latent infections progress to active disease, which kills about half of those affected. Active tuberculosis symptoms include a chronic cough with blood-containing mucus, fever, night sweats, and weight loss. It was originally called as consuming because of the weight loss. Other organ infections can cause a wide range of signs and symptoms. Patients with active tuberculosis in their lungs can spread the disease through the air by coughing, spitting, speaking, or sneezing. People with latent tuberculosis do not pass the infection on to others. Active infection is more likely in HIV/AIDS patients and smokers. Active tuberculosis is diagnosed using chest X-rays, as well as microscopic investigation and culture of body fluids. To diagnose latent tuberculosis, a Tuberculin Skin Test (TST) or blood tests are utilised.

DIAGNOSIS

Diagnosing active tuberculosis only on the basis of signs and symptoms, as well as diagnosing the disease in people with a weakened immune system, is difficult. Those who have evidence of lung disease or constitutional symptoms that last longer than two weeks should be tested for tuberculosis. The initial assessment usually includes a chest X-ray and several sputum cultures for acid-fast bacilli. In much of the poor world, interferon-release assays and tuberculin skin tests are ineffective. In HIV patients, Interferon Gamma Release Assays (IGRA) has comparable problems.

The Mantoux tuberculin skin test is frequently used to evaluate persons who are at high risk of contracting tuberculosis. A false-positive test result may occur in those who have previously been inoculated with the Bacille

Calmette-Guerin vaccine. Sarcoidosis, Hodgkin's lymphoma, malnutrition, and, most importantly, active tuberculosis can all cause the test to be falsely negative.

TREATMENT

Antibiotics are used to kill the germs that cause tuberculosis. Due to the unique shape and chemical composition of the mycobacterial cell wall, which prevents medications from entering and renders many antibiotics ineffective, successful TB treatment is difficult. To limit the chance of the bacteria developing antibiotic resistance, active tuberculosis is best treated with a mix of medicines. As of 2007, the benefit of using Rifambutin instead of rifampicin in HIV-positive TB patients is unknown.

EPIDEMIOLOGY

M. tuberculosis has infected over a quarter of the world's population, with new infections occurring in about 1% of the population each year. Most *M. tuberculosis* infections, however, do not result in illness, and 90–95 percent of infections are asymptomatic. A total of 8.6 million chronic cases were active in 2012. In 2010, 8.8 million new tuberculosis cases were detected, and 1.20–1.45 million people died from the disease (most of these occurring in developing countries). About 0.35 million of these occur in HIV-positive people. In 2018, tuberculosis was the largest infectious disease-related cause of death worldwide. Since 2005, the total number of tuberculosis cases has been declining, whereas new cases have been declining since 2002.

Tuberculosis is a seasonal disease, with peaks in the spring and summer. The causes are unknown however they could be linked to vitamin D insufficiency throughout the winter. There have also been studies that link tuberculosis to climatic conditions such as low temperatures, low humidity, and little rainfall. It's been argued that rising tuberculosis rates are linked to climate change.