Review Article

AN OVERVIEW OF TUBERCULOSIS

Vyas Ronak*, Sharma Tanya
* Mewar University,Gangrar,Chittorgarh, (Rajasthan)312901

TB remains one of the biggest health problems in the world and especially in low and middle-income nations even though it is a preventable and a curable condition. Transmission occurs by air in cases where an infected person sneezes, coughs, or speaks and expels the droplets with the bacteria. When inhaled, the bacteria can cause a lung infection where it may stay in an inactive state or develop active disease based on the immune system of the host. Tuberculosis clinically has a diverse list of symptoms, the most common of which are persistent cough, fever, night sweats, weight loss, and fatigue. The TB may be present in two broad forms; latent tuberculosis infection, where the person carries the bacteria without any symptoms or contagion, and active tuberculosis, which is symptomatic and contagious. Moreover, extrapulmonary TB has an affinity to other tissues like lymph nodes, bones, and central nervous system that complicates the diagnosis and treatment of this disease. The pathogenesis of TB is associated with the complicated interactions between the pathogen and the host immune system. After being infected, the immune cells strive to limit the bacteria by building granulomas. Tuberculosis is diagnosed by a mix of clinical assessment and laboratory procedures including sputum smear microscopy, culture procedures, chest radiography, and molecular diagnostics such as GeneXpert that enables the quick identification of the organism and drug resistance. The diagnosis of the disease is essential to prevent the spread of the disease and treat it in a timely manner. The management of TB involves the use of a combination of various antibiotics, which are normally used through a span of six months or more. The most popular first-line medications are isoniazid, rifampicin, pyrazinamide, and ethambutol. To achieve full-scale treatment and to avoid the development of drug-resistant strains, the treatment regimen must be adhered to. MDR and extensively drug-resistant (XDR) tuberculosis is an important issue that needs more complicated and prolonged courses of treatment.

Keywords: Tuberculosis; *Mycobacterium tuberculosis*; Pulmonary TB; Extrapulmonary TB; Latent TB; Airborne transmission; Granuloma; Acid-fast bacilli; Sputum microscopy; GeneXpert; Chest X-ray; Antitubercular therapy; Isoniazid; Rifampicin; Pyrazinamide; Ethambutol; DOTS strategy.

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