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DRUG RESISTANCE IN TUBERCULOSIS – MICROBIOLOGICAL AND CLINICAL ASPECTS

Summary

Tuberculosis (TB) still persists as a significant health problem for the entire human population. Every year, about 9 million people develop TB, and nearly 2 million die from the disease. Among major factors that influence current TB epidemiology is drug resistance of its causative agent – *Mycobacterium tuberculosis*. Of particular importance is multidrug resistance, defined as resistance of tubercle bacilli to at least isoniazid (INH) and rifampicin (RMP), the two most potent anti-TB drugs.

The pivotal role in the development of drug resistance in tubercle bacilli is attributed to spontaneous mutations in genes coding for proteins or RNAs that often, yet not always, serve as molecular targets for anti-TB therapeutics. These mutations occur at different frequencies in *M. tuberculosis* strains and differently impact the level of resistance to a specific drug.

This review addresses the most important issues related to drug-resistance in TB, including epidemiology, diagnostics, and treatment strategies for drug-resistant TB. A substantial part of the article is devoted to anti-TB drug's profiles, with particular emphasis on their modes of action and mechanisms of resistance.