

# Co-infection of *Mycobacterium tuberculosis* and Human Immunodeficiency Virus

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## ABSTRACT

Co-infection with Human Immuno Deficiency Virus (HIV) and *Mycobacterium tuberculosis* is common, particularly in the developing world. Tuberculosis (TB) is commonly found in HIV-positive individuals, who are at increased risk of both reactivation of latent infection and acquisition of new infection. As the degree of immunosuppression increases, the risks of developing TB disease also increase. HIV infects and destroys CD4+ T lymphocytes. As the CD4+ function and counts decline during HIV disease, the likelihood of TB disease is increased. In an HIV positive population, there is an increased risk of acquiring new TB infection. HIV/TB co-infected individuals have an annual 5-10 percent risk of reactivation of latent *Mycobacterium tuberculosis*. The highly active antiretroviral therapy (HAART) reduces the risk of developing TB by 80 percent amongst the HIV-positive patients compared with the patients not on antiretroviral therapy (ART). Most patients with immune reconstitution inflammatory syndrome (IRIS) have advanced HIV infection and low CD4+ counts at the initiation of HAART. The emergence of multi-drug resistance (MDR) strains of *M. tuberculosis* is a world wide problem and more alarming. The highest rates of multidrug resistance tuberculosis (MDR-TB) have been documented in Nepal (48%) and Gujarat of India (33.8%). WHO recommends that all patients in this condition should take directly observed treatment (DOT). To combat HIV/AIDS, effective global strategies must be highly linked with TB control strategies. (*J Infect Dis Antimicrob Agents* 2010;27:45-52.)

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