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Tuberculosis and HIV: A decade of research

HIV is the most important known risk factor that promotes progression to active TB in people with Mycobacterium tuberculosis infection. The lifetime risk of tuberculosis in immunocompetent persons is 5% to 10%, but in HIV positive patients, we observed 7% annual risk of developing active TB. Drug resistance rates are similar in HIV-infected and uninfected TB patients – with isoniazid resistance of 13-17% and MDRTB of 2-3% among new patients. Patients with advanced immunodeficiency are at high risk for acquisition of Rifampicin resistance when treated with twice-weekly or thrice-weekly regimens. We have documented the presence of malabsorption and low blood levels of anti-TB drugs, in patients with advanced disease. Our studies have shown that long-term treatment outcomes with thrice-weekly regimens are poor, but improve when ART is initiated early. Further, we have documented the risk factors and clinical profile of Immune Reconstitution syndrome among HIV-infected TB patients and have shown that IL-6 is a good predictor and marker for IRIS. Another clinical trial showed that both 6 months and 36 months of isoniazid preventive therapy (IPT) were effective and substantially reduced incidence of TB. The cost-effectiveness of different prevention strategies has also been examined. Surveillance of drug resistance has shown that resistance to NNRTIs develops in 70-90% of patients exposed to that class of drugs, who fail treatment. Further, evaluation of the early infant diagnosis program in Tamil Nadu has shown that a large proportion of infants fail to get tested by DNA PCR on time and subsequently linked to care.