

A Comparative Retrospective Study of Tuberculosis and HIV Co-Infection in Relation to Mean CD4 Count in cART Era

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ABSTRACT

Background: Individuals with HIV infection are at increased risk for tuberculosis (TB) and other respiratory tract infections. Infection with TB enhances replication of HIV and may accelerate the progression of HIV to AIDS, with rapid fall in CD4 count. The mean CD4 count decreases in TB patients irrespective of HIV status.

Aim: Emphasizing the pivotal role of cART and ATT in TB/HIV patients in maintaining their immune system effective (by maintaining CD4 count) and thus decreasing MDR/XDR, morbidity and mortality among these patients. Calculating average mean CD4 count for Indian scenario in cART era.

Material and methods: All the 961 HIV infected patients early morning sputa were screened for AFB and few of the samples were even cultured on LJ medium. All patients' CD4 count was also evaluated by flow cytometry method within one week of sputa collection. Seven other published work of HIV/TB patients were analyzed in relation to CD4 count. Moreover other five published research on CD4 in TB+ve/HIV-ve patients were also discussed in this article.

Results: Out of 961 patients with HIV/RTI, 308 (32.06%) found positive for tuberculosis with mean CD4 count found to be 198.5 and 105.9 cells/ μ l for pulmonary TB and extra-pulmonary TB, respectively in present study. The average mean CD4 count from seven research studies from India were found to be 169.75 and 145.3 cells/ μ l for pulmonary and extra-pulmonary TB, respectively, in TB/HIV co-infected patients on cART. It was found in advanced/severe TB but HIV-negative patients also mean CD4 count decreased up to as low as 341 + 116 cells/ μ l.

Conclusion: HAART and ATT both are equally important in maintaining immune system (maintaining CD4 count) of TB/HIV co-infected patients. In India, clinician should more keenly suspect for TB at around mean CD4 count of 169.75 even if found negative by AFB staining but should be confirm by culture on LJ medium, PCR or any other advanced techniques for HIV-positive patients.

Keywords: cART (combined antiretroviral treatment), ATT (anti-tuberculosis treatment)

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