

Effect of Tuberculosis and HIV Co-infection on CD4 Count in Bharat/India

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Individuals with HIV infection are at increased risk for tuberculosis (TB). The altered CD4 Tcell homeostasis induced by HIV infection may play a key role in the development of tuberculosis in HIV-infected patients. Among total 961 subjects with HIV infection studied, 308 (32.055) were found positive for TB. Out of this 244 (25.39%) were positive for pulmonary TB (HIV+TB+) while extra pulmonary TB was found in 64 (6.66%) HIV patients. The mean CD4 count for extra-pulmonary TB was found to be 104.89 ± 47.09 cells/ μ L, the mean CD4 count for pulmonary TB was 198.52 ± 32.25 cells/ μ L, while the cumulative TB mean CD4 count was found to be 151.71 ± 72.62 cells/ μ L. In this retrospective analysis, lymphocyte profiles (CD4 counts) of subjects infected with HIV, with or without TB, were evaluated. A statistically significant difference ($p = 0.01$) was found in the median CD4+ counts between the HIV+TB- (269.80 cells/ μ L) and HIV+TB+ (151.71 cells/ μ L) groups. The results of this study proved that, the lower the CD4 count range, the higher was the risk of developing pulmonary TB and higher was the incidence, but when CD4 count fell below 200 cells/ μ L, even the risk of developing extra-pulmonary TB was noted. This was proved by finding of 40.25% of total TB cases were with

co-infected patients on cART. In advanced TB (HIV-negative) patients mean CD4 count found to be 485 ± 321 by other researchers. 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 suspect more 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.

Out of 961 patents with 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 for extrapulmonary 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

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