Researchers at University of Arizona Target HIV/AIDS
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Research findings, "Reconstitution of CD4 T cells in bronchoalveolar lavage fluid after initiation of highly active antiretroviral therapy," are discussed in a new report. "The massive depletion of gastrointestinal-tract CD4 T cells is a hallmark of the acute phase of HIV infection. In contrast, the depletion of the lower-respiratory-tract mucosal CD4 T cells as measured in bronchoalveolar lavage (BAL) fluid is more moderate and similar to the depletion of CD4 T cells observed in peripheral blood (PB)," scientists in Tucson, Arizona report (see also ).

"To understand better the dynamics of disease pathogenesis and the potential for the reconstitution of CD4 T cells in the lung and PB following the administration of effective antiretroviral therapy, we studied cell-associated viral loads, CD4 T-cell frequencies, and phenotypic and functional profiles of antigen-specific CD4 T cells from BAL fluid and blood before and after the initiation of highly active antiretroviral therapy (HAART). The major findings to emerge were the following: (i) BAL CD4 T cells are not massively depleted or preferentially infected by HIV compared to levels for PB; (ii) BAL CD4 T cells reconstitute after the initiation of HAART, and their infection frequencies decrease; (iii) BAL CD4 T-cell reconstitution appears to occur via the local proliferation of resident BAL CD4 T cells rather than redistribution; and (iv) BAL CD4 T cells are more polyfunctional than CD4 T cells in blood, and their functional profile is relatively unchanged after the initiation of HAART," wrote K.S. Knox and colleagues, University of Arizona.

The researchers concluded: "Taken together, these data suggest mechanisms for mucosal CD4 T-cell depletion and interventions that might aid in the reconstitution of mucosal CD4 T cells."

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