Study shows why treatment isn't effective for HIV

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University of Minnesota researchers have answered a key question as to why antiretroviral therapy isn't effective in restoring immunity in HIV-infected patients.

Once a person is infected with the virus, fibrosis, or scarring, occurs in the lymph nodes – the home of T cells that fight infection. And once fibrosis occurs, T cells can't repopulate the lymph nodes when HIV therapy begins, said Timothy Schacker, M.D., professor of medicine and principal investigator on the study.

"Importantly, we discovered that this fibrosis occurs more rapidly and to a greater extent in the portion of the gut – the largest lymphatic tissue in the body – containing the T cells, compared with other immune tissues," he said. "The fibrosis stops cells from returning to immune tissues, especially in the gut."

The results of the study, sponsored by the National Institute of Health, will be published in the Aug. 15 edition of the Journal of Infectious Disease. The article is currently online.

In the study, seven HIV-infected patients were treated very early after infection and experienced a greater degree of immune reconstitution than patients treated in the chronic or end stages of the disease, especially in the gut.

Schacker said it's crucial to start therapy earlier than current guidelines suggest. Beginning in the earliest stages of infection, when the patient only shows preliminarily symptoms of HIV, can preserve some elements of the immune system (mainly protecting T-cells that fight infection), he said.

The research also suggests that anti-fibrotic drugs might have a role as adjunctive therapy in HIV-1 infections – both in limiting depletion and improving reconstitution of T cells under therapy.

Source: University of Minnesota