Anti-CMV Drug Reduces HIV-Related Inflammation

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Adding the anti-cytomegalovirus (CMV) drug Valcyte (valgancyclovir) to an antiretroviral (ARV) regimen calms down immune system inflammation in people with HIV, according to a study published in the May 15 issue of The Journal of Infectious Diseases.

Even when HIV is well controlled, the presence of residual virus causes the immune system to remain in a state of high alert, a syndrome called inflammation. Inflammation has been tied to serious health problems such as cardiovascular disease, diabetes and kidney disease in both HIV-positive and HIV-negative people. In HIV-positive people, inflammation is also thought to blunt the recovery of the immune system after a person starts taking ARVs.

Scientists are eagerly looking for ways to eradicate the residual amount of HIV that ARV therapy can't contain. In the meantime, they are also seeking ways to reduce inflammation in people who are otherwise doing well on medication. Such methods, if found, could be particularly helpful for people who waited to start ARV therapy until their CD4s dropped below 200 and who haven't seen their CD4 levels return to normal despite successful treatment.

One avenue to reduce inflammation that researchers are exploring is treating other chronic viral infections known to rev up the immune system. One of these viruses—a virus that more than 90 percent of HIV-positive people carry—is CMV. The theory proposed by researchers at the University of California in San Francisco (UCSF) is that treating underlying CMV might actually reduce HIV-specific inflammation as well.

To test this proposal, Peter Hunt, MD, from UCSF, and his colleagues compared the drug Valcyte with a placebo in 30 HIV-positive people who tested positive for CMV, were on ARV therapy and who had low CD4 counts. The aim was to determine whether adding Valcyte to an ARV regimen for eight weeks would further reduce inflammation on HIV-specific immune cells called CD8 cells.

The 14 people who received Valcyte were similar in most respects to the 16 who received a placebo. Almost all were male, and the average age was 49. The average length of time on ARV drugs was just over two years, most had undetectable HIV levels, and the majority had a CD4 count under 200 at the time of the study. Hunt's team measured HIV levels, CD4 counts and various aspects of immune inflammation every two weeks during the eight weeks on either Valcyte or placebo, plus an additional four weeks after that.

Hunt and his colleagues found that adding eight weeks of Valcyte reduced the number of activated CD8 cells by 20 percent and it remained at this reduced level during the four weeks of observation

after people stopped taking the drug. By comparison, inflammation remained the same for the entire 12 week period in those receiving a placebo.

The authors are quick to point out that Valcyte can have serious side effects, including the suppression of bone marrow. For this reason, people should definitely not be adding Valcyte to their HIV regimens. What's more, the study was so small and so short that there is no way to tell whether the reduction in CD8 cell activation will actually result in a meaningful improvement in CD4 counts or other health benefits. Nevertheless, the authors state that the result is large enough and strong enough to warrant a longer and larger study, especially in those with poor CD4 recovery despite effective ARV therapy.
