Possible Link to Alleged Heart Disease Risk With Abacavir

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People taking abacavir (found in Ziagen, Epzicom and Trizivir) had a higher risk for endothelial dysfunction—when the cells lining the blood vessels are less able to carry out their functions for processing blood flow, which can lead to heart disease—according to a study published in the September 24 issue of *AIDS*. Scientists have been looking for the cause of heart attack and heart disease risk associated with abacavir ever since studies first suggested a link.

Researchers published results from the Data Collection on Adverse Events of Anti-HIV Drugs (D:A:D) study in early 2008, which showed an increased risk of heart attacks in people currently taking abacavir, and since then scientists have been trying to figure out what might have led to those results. Since the D:A:D results were published at an AIDS conference, a number of theories have been proposed—as well as competing studies, some showing an increased risk and others not—but nothing has been conclusively proved.

To examine the possibility that endothelial dysfunction might play a role, Priscilla Hsue, MD, and her colleagues from San Francisco General Hospital examined the medical records of 61 people with HIV who were starting antiretroviral (ARV) therapy for the first time. The average age was 50, and the average duration of HIV infection was 18 years. Hsue's team measured endothelial function using a technique called flow-mediated dilation (FMD) of the brachial artery of the study volunteers before and after they began ARV treatment. Thirty of the volunteers received a regimen containing abacavir, and 31 did not.

The higher a person's FMD score, the better their endothelial function. The researchers found that people taking abacavir had a significantly lower FMD than those not taking abacavir. Their finding held up even after accounting for traditional endothelial dysfunction risk factors, HIV-specific and baseline brachial artery diameter. Reduced FMD was only associated with current abacavir use and neither treatment duration nor CD4 count.

The authors concluded that reduced endothelial function might cause the increase in heart disease associated with abacavir use in some studies.