Abacavir May Not Significantly Increase Inflammatory Proteins

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Taking abacavir (found in Ziagen, Epzicom and Trizivir) may not lead to protein increases that have been linked to heart attacks, say the authors of a small study published in the November 30 issue of *AIDS* and reported by aidsmap. This finding contrasts two studies published earlier this year that found an increased risk of heart attacks in people taking abacavir, possibly due to a spike in blood levels of proteins associated with immune system inflammation.

Over the past year, researchers from two large studies, D:A:D and SMART, reported an increased risk of heart attacks in people taking abacavir. A deeper analysis of the SMART data showed that blood levels of two inflammatory proteins that have been associated with increased cardiovascular disease risk—highly sensitive C reactive protein (hsCRP) and interleukin-6 (IL-6)—were more likely to be elevated in people taking abacavir compared with other antiretrovirals (ARVs).

To further explore the impact of abacavir on these proteins, Emma Hammond, PhD, MSc, from Murdoch University in Murdoch, Australia, and her colleagues analyzed blood samples of 15 people starting abacavir as part of their first HIV regimen, 13 people switching to abacavir from Retrovir (zidovudine) or Zerit (stavudine) and 13 people who remained on abacavir but stopped taking Retrovir or Zerit. Hammond's team examined nine different inflammatory proteins including hsCRP, IL-6, D-dimer, tumor necrosis factor alpha (TNFa), adiponectin and leptin.

In people who started abacavir as part of their first ARV regimen, the levels of most inflammatory markers actually decreased. The one exception was a slight increase in IL-6 levels. The increase was not statistically significant, however, meaning it was small enough to have occurred by chance.

In people switching to abacavir from Retrovir or Zerit, levels of most proteins either fell slightly or remained stable. There was, however, a statistically significant increase in the level of TNFa. Levels of leptin, a protein associated with appetite and body fat composition, also increased. This may not be a bad thing, however, as both Retrovir and Zerit are known to decrease limb and facial fat, which would be associated with depressed leptin levels.

In all, Hammond and her colleagues were not able to find evidence that abacavir significantly worsens the degree of inflammation in people using the drug. The team states that it will be a complex endeavor to establish a link between a treatment such as abacavir, levels of

inflammatory proteins and the risk of cardiovascular disease. They call on other researchers to conduct further studies with abacavir and other treatments that will proactively measure inflammatory protein levels over time.

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