Inflammatory Diseases Are Major Concern for Those on HIV Treatment

Treatments to reduce inflammation could help make HIV even less of a threat to health than antiretrovirals can alone.

December 22, 2017

For people with HIV on antiretrovirals (ARVs) who have a moderately compromised immune system, serious cases of illnesses related to inflammation are a central concern. Consequently, treatments that dampen inflammation may make HIV even less of a threat to health than ARV treatment can on its own.

Publishing their findings in the Journal of Acquired Immune Deficiency Syndromes, researchers analyzed data on 3,568 members of the control arms of the SMART or ESPRIT studies who were on ARV treatment for HIV and had a viral load between 300 and 500. The participants were followed for serious (grade 4) cases of various serious non-AIDS-defining health conditions, AIDS, cardiovascular disease (CVD), non-AIDS-defining cancer (NADC) and death. The researchers classified the grade 4 events based on whether they reflected inflammation-related disease or non-inflammation-related disease.

The researchers also looked at the participants' initial levels of an inflammatory marker known as interleukin-6 (IL-6) as well as a marker of coagulation (blood clotting) called D-dimer.

During a median follow-up of 4.3 years, 339 participants developed a grade 4 health event, for a rate of 2.29 percent per year, including 165 people who developed a grade 4 health event reflecting inflammation-related disease (for a rate of 1.07 percent per year). Overall grade 4 events were more common than AIDS (diagnosed in 54 participants), CVD (132 participants) and NADC (80 participants), health outcomes that developed in 252 participants all told, for a cumulative rate of 1.71 percent per year.

Forty-nine percent of grade 4 health events were those reflecting inflammation-related disease, including gastroenteritis (stomach flu), cirrhosis of the liver, acute kidney failure and acute pancreatitis. The most common grade 4 events not reflecting inflammation-related disease were depression, back pain, groin hernia and suicide attempt.

Grade 4 health events and AIDS were associated with similar risks of death.

Having a higher IL-6 level at the study's outset was associated with 1.19-fold increased risk of grade 4 health events for every comparative doubling of the inflammatory marker's level. And similarly, every comparative doubling of the baseline D-dimer level was associated with a 1.23-fold increased risk of grade 4 health events. The association between baseline IL-6 level and grade 4 health events was stronger for events reflecting inflammation-related disease (associated with a 1.38-fold increased risk for each comparative doubling of the initial level) compared with those reflecting non-inflammation-related disease (associated with a 1.11-fold increased risk for each comparative doubling of the initial level).

"Our findings showed that potentially life-threatening conditions associated with the activation of inflammatory and coagulation pathways due to HIV are more extensive than AIDS and [serious non-AIDS health events] which heretofore have been considered," the study authors concluded.

To read the study abstract, click here.

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