

7th Conference on Retroviruses and Opportunistic Infections



San Francisco, CA - January 30 -February 4, 2000

ENDOTHELIAL DYSFUNCTION IS ASSOCIATED WITH THE USE OF HUMAN IMMUNODEFICIENCY VIRUS-1 PROTEASE INHIBITORS.

Conf Retroviruses Opportunistic Infect 2000 Jan 30-Feb 2; 7:80 (abstract no. 29)

J. M. Sosman, M. A. Klein, J. L. Bellehumeur, S. E. Aeschlimann, And J. H. Stein
Univ. of Wisconsin, Madison.

BACKGROUND: Although human immunodeficiency virus protease inhibitors (HIV PIs) confer striking immunologic and clinical benefits to HIV patients, they also are associated with peripheral fat wasting, central obesity, hypertriglyceridemia, and glucose intolerance. It is not known if these metabolic and phenotypic abnormalities are associated with increased risk of atherosclerotic vascular disease. To determine if use of HIV PIs impairs endothelial function, flow-mediated vasodilation (FMD) of the brachial artery was measured in subjects with HIV-1 infection.

METHODS: Twenty-eight HIV-infected non-smoking adults taking stable combination antiretroviral therapy for >6 months were enrolled (mean \pm SD age 41.6 ± 7.2 years, 9 females). FMD was measured using high-resolution brachial artery ultrasonography (7.5mHz, Hewlett-Packard, Andover, MA). Images were stored digitally and analyzed in triplicate using proprietary software (MedArchive Viewer, Secure Archive, Longmont, CO).

RESULTS: FMD was impaired in 21 subjects receiving HIV PIs ($3.0 \pm 4.8\%$), but was normal in a control group of HIV subjects not receiving HIV PIs ($9.4 \pm 7.5\%$, $p=0.018$). Nitroglycerin-mediated vasodilation was normal in both groups, suggesting that use of HIV protease inhibitors was associated with impaired endothelium-dependent vasodilation and endothelial dysfunction. Subjects receiving HIV protease inhibitors were mildly overweight (body mass index 27.6 ± 24.6 kg/m², $p=0.449$), hypercholesterolemic (total cholesterol 228 ± 62.5 mg/dL, $p=0.036$), and hypertriglyceridemic (median 353, interquartile range 181-511 mg/dL, $p=0.043$). They had normal fasting glucose (median 89, interquartile range 84-94 mg/dL), LDL cholesterol (116.1 ± 48.2 mg/dL), and HDL cholesterol levels (40.8 ± 12.7 mg/dL).

CONCLUSIONS: Use of HIV-1 protease inhibitors is associated with endothelial dysfunction. The metabolic and phenotypic changes observed with these medications may predispose to atherosclerosis and increased vascular risk.

Keywords: AEGIS, HIV-1, HIV Protease Inhibitors, HIV Infections, Protease Inhibitors, Reverse Transcriptase Inhibitors, Lipoproteins, HDL Cholesterol, Lipoproteins, LDL Cholesterol, Brachial Artery, Vasodilation, Arteriosclerosis, Nitroglycerin, Glucose Intolerance, Human, Female, Adult, AIDS

2000-01-30

29

Copyright © 2000 - [Foundation for Retrovirology and Human Health](#) (IAS). Reproduction of this abstract (other than one copy for personal reference) must be cleared through the Foundation for Retrovirology and Human Health. Licensed from National Library of Medicine.