

## Almost Three Quarters of HIV/HCV Group May Have DAA-ARV Interactions

16th International Workshop on Clinical Pharmacology of HIV and Hepatitis Therapy, May 26-28, 2015, Washington, DC

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Among 125 HIV/HCV-coinfected people taking antiretrovirals in a Denver group, 70% could have moderate or severe interactions with one of four common direct-acting antiviral (DAA) regimens for HCV [1]. Researchers calculated that 20% of patients who needed to switch antiretrovirals because of certain DAA interactions could not switch because of antiretroviral resistance.

This retrospective study involved 125 HIV/HCV-coinfected adults with antiretrovirals prescribed within the last year. All participants were in care at an academic medical center in Denver. Researchers assessed potential interactions between each person's antiretroviral regimen and four possible DAA combinations: simeprevir and sofosbuvir (SIM/SOF), sofosbuvir and ledipasvir (SOF/LDV), sofosbuvir and daclatasvir (SOF/DCV), and ritonavir-boosted paritaprevir plus dasabuvir and ombitasvir (3D). The analysis did not explore potential interactions between non-HIV drugs and DAAs.

The Denver team rated antiretroviral-DAA interactions as severe (unsafe and contraindicated), moderate (requiring additional monitoring and/or dose adjustments), and no significant interactions (safe with no dose adjustments required). The investigators also assessed actual interactions between antiretrovirals and SOF/LDV in people taking SOF/LDV.

Among the 125 patients, 101 (81%) were taking tenofovir, 50 (40%) a protease inhibitor, 44 (35%) raltegravir, and 20 (16%) efavirenz. Eighty-eight people (70.4%) could have a moderate or severe interaction with at least one of the four DAA regimens. Potential moderate or severe interactions could be anticipated with 47% of antiretroviral regimens if combined with SOF/DCV, with 61% if combined with 3D, with 64% if combined with SOF/LDV, and with 70% if combined with SIM/SOF.

Prescribed antiretroviral regimens proved most likely to pose a risk of severe DDA interactions if prescribed with SIM/SOF (64%), followed by 3D (40.8%), and SOF/LDV (9.6%). No severe interactions were anticipated with SOF/DCV. Antiretroviral regimens could have moderate interactions most often with SOF/LDV (54%), followed by SOF/DCV (46.6%), 3D (20%), and SIM/SOF (7%).

Of the 125 people in this study group, 35 (28%) got prescribed SOF/LDV. Two of the 35 (5.7%) were taking antiretrovirals contraindicated with sofosbuvir or ledipasvir, while 17 people (48.6%) could have moderate interactions between antiretrovirals and these DAAs and 16 (45.7%) had no threat of interactions with SOF/LDV. Of the 17 people with potential moderate interactions, 10 switched antiretrovirals before starting the DAAs and 7 continued their original antiretrovirals. The 7 people who did not change antiretrovirals to accommodate SOF/LDV were taking an antiretroviral salvage regimen (2 people), had adherence problems and low viremia (3 people), or preferred to stay on their antiretroviral regimen (2 people).

Finally, the researchers analyzed resistance via genotype, phenotype, and/or Phenosense in all 35 people prescribed SOF/LDV. They determined that 7 of these 35 (20%) could not change their

antiretrovirals because of resistance. Five of the 7 did not have significant interactions between their antiretrovirals and SOF/LDV, while 2 had moderate interactions.

The researchers concluded that potential moderate or severe interactions between DAAs and antiretrovirals are common in HIV/HCV-coinfected people and noted that "without a choice in DAA selection, many patients will require a change of antiretroviral therapy or increased monitoring."

#### Reference

1. Langness J, Larson B, Bayer J, Rogers M, Kiser J. Readying HIV/HCV coinfecting patients for HCV treatment: occurrence and management of antiviral interactions. 16th International Workshop on Clinical Pharmacology of HIV and Hepatitis Therapy. May 26-28, 2015. Washington, DC. Abstract 18.