Black Women Twice as Likely to Die of AIDS in U.S. Compared to White HIV-Positive Women

March 13, 2012 By Tim Horn

Some sobering news from the Women's Interagency HIV Study (WIHS): Black women living with HIV are more likely to progress to AIDS and twice as likely to die of its complications compared with white women living with HIV, according to new results from the cohort presented Tuesday, March 6, at the 19th Conference on Retroviruses and Opportunistic Infections in Seattle. Though black women were significantly less likely to adhere to antiretroviral (ARV) therapy in the analysis, their risk of AIDS-related deaths were still significantly higher after accounting for this.

Eighty percent of HIV infections globally occur in women and people of African descent, but the majority of studies on antiretroviral (ARV) therapy have been conducted in men of European descent, Kerry Murphy, MD, of Albert Einstein College of Medicine in New York and her WIHS colleagues explained in their introduction comments.

Though previous data from the WIHS—one of the largest and longest cohort studies following women living with HIV in the United States—pointed to better survival among white women in the United States, the finding was not statistically significant, at least not when the results were published in 2005. The study has been under way since 1993, with sites in Brooklyn, the Bronx, Chicago, Los Angeles, Northern California and Washington, DC.

With additional follow-up data now available, the WIHS researchers again revisited potential associations between race, AIDS-related deaths, non-AIDS related deaths and the new AIDS-related illnesses in the cohort.

Included in the analysis reported by Murphy and her colleagues at CROI were 1,471 women living with HIV on continuous ARV therapy.

Compared with white women in the cohort, black women were twice as likely to die of an AIDS-related complication. This finding was statistically significant and accounted for other known predictors of AIDS death, including high depression scores, high pre-treatment viral loads, low pre-treatment CD4 cell counts, hepatitis C coinfection and a history of illicit drug use.

Other potentially important factors, such as differences in access to quality HIV care and support services outside of WIHS, were not considered in the analysis.

Murphy's team also noted a statistically significant 68 percent increase in the risk of a new AIDS-defining illness among black women, compared with white women, during the WIHS follow-up period.

The risk of death from a non-AIDS-related illness appeared somewhat lower among black women compared with white women, but this finding was not statistically significant.

Looking specifically at the incidence of AIDS deaths of WIHS, over an average follow-up period of 12 years, rates were twice as high among black women compared with white women: 16 percent versus 8.2 percent, respectively.

Not surprisingly, women who were more than 95 percent adherent to their prescribed HIV treatment regimens were 70 percent less likely to die of AIDS. And in a sub-analysis of 1,255 women, Murphy's team found that black women were roughly 35 percent less likely to achieve 95 percent adherence, compared with white women. "However," the researchers noted in their presentation, "black race remained an independent predictor of AIDS death after adjusting for adherence."

Murphy and her colleagues noted that genetics may be playing a role, notably differences in genes responsible for breaking down and transporting ARVs throughout the body. For example, black men and women are more likely to have a genetic mutation called CYP2B6 G516T, which can slow the metabolism of drugs like efavirenz (found in Sustiva and Atripla) and nevirapine (Viramune), thereby increasing the risk of side effects and potentially reducing adherence. There is also the MDR1 C3435T mutation, which has been documented to be more common among blacks and can affect protease inhibitor concentrations in cells.

"Future studies examining host genetic traits in these women are important and may inform selection of future [ARV] regimens for women of African ancestry," the authors conclude.
