Older Adults With HIV Are More Likely to Have Dementia

In a well-insured cohort of older people with HIV, antiretroviral treatment didn't offset the risk for dementia.

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Older people with HIV are at increased risk of being diagnosed with dementia by age 80, despite being on antiretroviral treatment and having a consistently undetectable viral load, according to a Northern California cohort study published in the journal AIDS.

Many factors can influence the risk for dementia, including depression, metabolic syndrome, heart disease and untreated HIV. What's more, even with treatment, HIV-associated neurocognitive disorder may influence dementia risk. But researchers are looking at ways to reverse this course, including exercise and hormone management.

Jennifer Lam, PhD, of Kaiser Permanente Northern California's Division of Research, conducted an observational cohort study between 2013 and 2017 that included 5,381 Kaiser members living with HIV and 119,022 HIV-negative members matched for age and other demographic factors.

The participants were all age 50 or older (median 57 years for the HIV-positive people and 58 for the HIV-negative people). Most (91%) were men; 65% were white, 15% were Black and 13% were Latino. Nearly all of the people with HIV—97%—had an undetectable viral load at enrollment, and 67% had CD4 counts of at least 500; 40% had a history of AIDS. None had a history of dementia at baseline.

The researchers gathered data on age, race, sex and an index score for neighborhood deprivation—that is, a marker for neighborhood-level income, education, employment and housing. They also gathered data on conditions known to be associated with dementia, such as alcohol use, smoking and other substance use, as well as other health conditions, including heart disease, diabetes, hepatitis C and depression. For people with HIV, they also tracked CD4 counts and HIV viral load.

They then followed the participants' charts until the first dementia diagnosis, departure from care at Kaiser Permanente Northern California or through the end of 2019.

They found that by the end of the trial, 68.8% of the people with HIV and 67.6% of the people

without HIV were alive and without dementia diagnosis.

Despite the fact that people with HIV started out with lower rates of obesity, diabetes and unhealthy alcohol use, people with HIV were still 0.2% more likely in absolute numbers to receive a dementia diagnosis—117 people with HIV (2.2%) had been diagnosed with dementia, compared to 2,427 people without HIV (2.0%). People with HIV were also diagnosed with dementia earlier, at an average age of 67, compared to 78 among their HIV-negative peers.

Among the HIV-positive people with HIV, 91% had a viral load below 200 copies—meaning they did not have advanced immune suppression. The researchers didn't break down the data by antiretroviral regimen.

Even though the dementia prevalence rate differed by just 0.2%, analyses showed that the cumulative proportion of people with HIV diagnosed with dementia by age 80 was 26%—nearly twice the 14% rate for people without HIV, perhaps owing to earlier diagnosis.

But that was before accounting for factors such as substance use, which was higher among people with HIV, as well as heart disease and diabetes, which have been associated with dementia risk.

Tellingly, when the researchers accounted for the higher rate of depression among people with HIV, the risk for dementia in this group dropped by 19%. Then, when they further accounted for social determinants of health, the risk for dementia dropped even more. But people with HIV still had a 58% increased risk for a dementia diagnosis compared with their HIV-negative peers.

Finally, the researchers accounted for deaths reported during the course of the study. In the end, after considering all these factors, people with HIV had a 40% increased risk for dementia.

"This study contributes evidence that older [people with HIV] are at a significantly elevated risk for dementia despite receiving ART [antiretroviral therapy]," wrote Lam and her colleagues. "In this study, overall dementia risk in people with HIV was partially explained by cardiovascular disease, diabetes, obesity and depression, all of which are more common in HIV populations and which can adversely affective cognitive health. As HIV care evolves to include management of multiple chronic conditions, improved clarity is needed on how the severity and treatment of these comorbidities may influence dementia risk."

Click here to read the study abstract.

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