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HIV infection linked to lower multiple sclerosis risk

Antiretroviral drugs and chronic immune system suppression might explain link

[HIV and lower risk of multiple sclerosis: beginning to unravel a mystery using a record-linked database study Online First doi 10.1136/jnnp-2014-307932]

And

[Does antiretroviral therapy for HIV reduce the risk of developing multiple sclerosis? Online First doi10.1136/jnnp-2014-308297] (Editorial)

HIV infection is linked to a significantly lower risk of developing multiple sclerosis (MS), indicates observational research published online in the ***Journal of Neurology Neurosurgery & Psychiatry***.

Chronic dampening down of the immune system as a result of the infection and/or the antiretroviral drugs used to treat it might explain this association, say the researchers.

If subsequently found to be causal, this could have considerable implications for the treatment of MS, they suggest.

Following the case of an HIV positive man with MS, whose MS symptoms disappeared for more than 12 years after antiretroviral treatment for his HIV infection, a Danish research team attempted to find out if antiretroviral drugs might treat or slow the progression of MS.

Their results suggested this might be a possibility, but the numbers were too small to reach statistical significance, prompting the current researchers to carry out a much larger comparative study.

They did this by looking at episodes of hospital care between 1999 and 2011 in England.

In all, more than 21,000 people infected with HIV were treated during this period, as were almost 5.3 million people treated for minor conditions or injuries, who acted as the comparison group.

The development of MS was tracked in all participants for seven years, with the actual number of cases arising compared with the number expected to have arisen in the population.

Compared with those who did not have HIV, those who did were 62% less likely to develop MS, based on seven actual diagnoses of MS during that period versus the 18 that would have been expected.

The degree of protection seemingly conferred by HIV increased the more time that elapsed between a diagnosis of HIV and one of MS, the analysis indicated.

After more than a year between the two diagnoses, HIV positive patients were 75% less likely to develop MS, based on four actual diagnoses versus the 16 that would have been expected.

And after more than five years this increased to 85%, based on one actual case versus the 6.5 that would have been expected.

The findings back those of the Danish authors, but with the crucial difference that the new findings are statistically significant, say the researchers.

They emphasise that their findings are speculative rather than definitive, because the study is observational, added to which they have no information on whether the HIV positive participants had taken antiretroviral drugs, or for how long.

But they write: "If subsequent studies demonstrate there is a causal protective effect of HIV and/or its treatment, and if the magnitude of it proves to be similar...this would be the largest protective effect of any factor yet observed in relation to the development of MS."

HIV infection may itself stave off the development of MS, or it could be that antiretroviral drugs to dampen down the proliferation of the virus may also have the same effect on other viral agents implicated in the development of MS, they suggest.

In an accompanying editorial, Mia van der Kop, an epidemiologist at the University of British Columbia in Vancouver, Canada, says the findings add to the body of evidence pointing to a link between HIV, or its treatment, and MS.

“However, additional work is required to move beyond hypothesis generation,” she cautions.