Increased levels of human herpesvirus ID'd in Alzheimer's

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(HealthDay)—Subjects with Alzheimer's disease have increased levels

of two strains of human herpesvirus, according to a study published online July 11 in *Neuron*.

Ben Readhead, M.B.B.S., from the Icahn School of Medicine at Mount Sinai in New York City, and colleagues constructed multiscale networks of the late-onset Alzheimer's disease-associated virome, integrating genomic, transcriptomic, proteomic, and histopathological data across four brain regions using tissue from human postmortem samples.

The researchers found that, compared with controls, subjects with Alzheimer's disease had increased human herpesvirus 6A (HHV-6A) and HHV-7. In two additional, independent, and geographically dispersed cohorts, these results were replicated. Regulatory relationships were seen linking viral abundance and modulators of APP metabolism; HHV-6A induced *APBB2*, *APPBP2*, *BIN1*, *BACE1*, *CLU*, *PICALM*, and *PSEN1*.

"This study represents a significant advancement in our understanding of the plausibility of the pathogen hypothesis of Alzheimer's," a coauthor said in a statement. "If it becomes evident that specific viral species directly contribute to an individual's risk of developing Alzheimer's or their rate of progression once diagnosed, then this would offer a new conceptual framework for understanding the emergence and evolution of Alzheimer's at individual, as well as population, levels."

More information: Abstract/Full Text