Medical Xpress

Deep brain stimulation may be promising Alzheimer's treatment

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(HealthDay)—For patients with Alzheimer's disease (AD), the use of

deep brain stimulation (DBS) at the ventral capsule/ventral striatum (VC/VS) region is well tolerated and is associated with less decline on the Clinical Dementia Rating-Sum of Boxes (CDR-SB), according to a study published online Jan. 30 in the *Journal of Alzheimer's Disease*.

Douglas W. Scharre, M.D., from The Ohio State University Wexner Medical Center in Columbus, and colleagues conducted a non-randomized phase I prospective open label intervention trial of three AD patients with matched comparison groups. The CDR-SB was compared for AD participants given DBS for at least 18 months at the VC/VS target to matched groups without DBS from the AD Neuroimaging Initiative cohort. In addition, over time, AD participants' serial 2-deoxy-2-[^{18}F]fluoro-D-glucose (FDG) positron emission tomography (PET) images were compared longitudinally.

The researchers found that DBS was well tolerated by all participants, without significant adverse events. Relative to matched comparison groups, all three participants had less performance decline, and two had meaningfully less decline over time on CDR-SB using score trajectory slopes. After chronic DBS at the VC/VS target, minimal changes or increased metabolism were seen on FDG-PET in frontal cortical regions.

"The first use of DBS in AD at a frontal lobe behavior regulation target (VC/VS) was well tolerated and revealed less performance decline in CDR-SB," the authors write. "Frontal network modulation to improve executive and behavioral deficits should be furthered studied in AD."

More information: Abstract/Full Text (subscription or payment may be required)