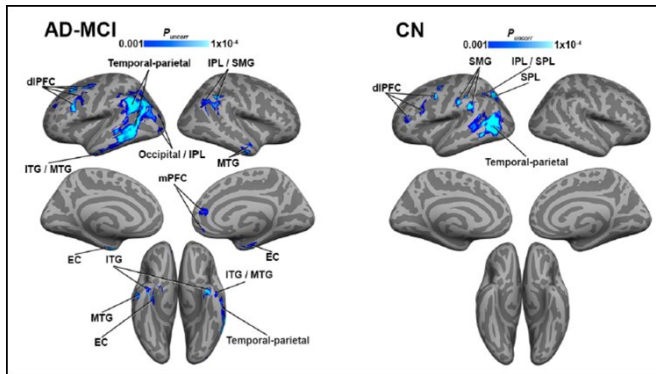


Brain regions with impaired blood flow have higher tau levels

12 October 2020



people with mild cognitive impairment and Alzheimer's dementia. The correlation between tau and vascular function was stronger in people with greater cognitive impairment and higher amyloid- β levels. It also appeared in more [brain regions](#) as the disease progressed in severity. These findings suggest targeting vascular function could be key to preventing and treating Alzheimer's dementia.

More information: *JNeurosci* (2020). [DOI: 10.1523/JNEUROSCI.1230-20.2020](https://doi.org/10.1523/JNEUROSCI.1230-20.2020)

Brain regions with a negative correlation between blood flow and tau. Alzheimer's disease and mild cognitive impairment on the left, cognitively normal on the right. Credit: Albrecht et al., *JNeurosci* 2020

Provided by Society for Neuroscience

In Alzheimer's disease, impaired blood flow to brain regions coincides with tau protein buildup. This relationship strengthens as cognition declines, according to new research published in *JNeurosci*.

Vascular function declines and amyloid- β and [tau protein](#) accumulate as Alzheimer's disease progresses, resulting in neuron death. Like the proverbial chicken and egg, it remains unclear if impaired [blood flow](#) causes or is caused by errant protein buildup, or if the two symptoms occur for unrelated reasons.

Albrecht et al. used MRI and PET to compare blood flow and tau buildup in the brains of older adults, with cognition ranging from cognitively normal to showing signs of mild cognitive impairment. Areas with increased tau levels had diminished blood flow, particularly in the inferior temporal gyrus, one of the first regions to show tau buildup in Alzheimer's disease, even before cognitive symptoms manifest. The [relationship](#) held true for a separate data pool from the Alzheimer's Disease Neuroimaging Initiative, which included

APA citation: Brain regions with impaired blood flow have higher tau levels (2020, October 12) retrieved 28 April 2021 from <https://medicalxpress.com/news/2020-10-brain-regions-impaired-blood-higher.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.