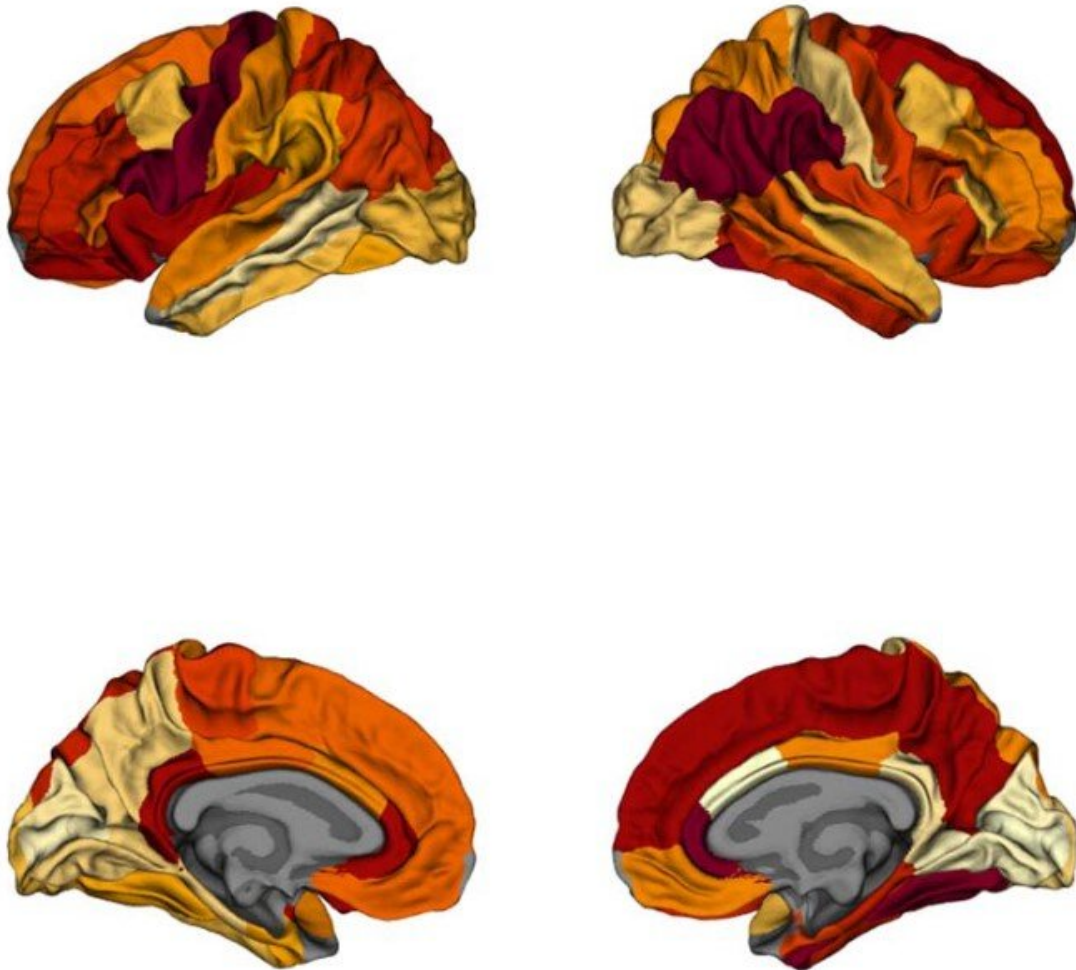


# Study finds obesity-related neurodegeneration mimics Alzheimer's disease

January 31 2023

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A comparison of cortical thickness between the brains of obese patients to those with Alzheimer's disease. Darker colors indicate similarities in cortical thickness between the two groups. Credit: Filip Morys

A new study led by scientists at The Neuro (Montreal Neurological Institute-Hospital) of McGill University finds a correlation between neurodegeneration in obese people and Alzheimer's disease (AD) patients, suggesting that losing excess weight could slow cognitive decline in aging and lower risk for AD.

Previous research has shown that obesity is linked with Alzheimer's disease (AD)-related changes, such as cerebrovascular damage and amyloid- $\beta$  accumulation. However, to date no research has made a direct comparison between brain atrophy patterns in AD and obesity.

Using a sample of more than 1,300 individuals, the researchers compared patterns of gray matter atrophy in obesity and AD. They compared the AD patients with healthy controls, and obese with non-obese individuals, creating maps of gray matter atrophy for each group.

The scientists found that obesity and AD affected gray matter cortical thinning in similar ways. For example, thinning in the right temporo-parietal cortex and left prefrontal cortex were similar in both groups. Cortical thinning may be a sign of neurodegeneration. This suggests that obesity may cause the same type of neurodegeneration as found in people with AD.

Obesity is increasingly recognized as a multisystem disease affecting respiratory, gastrointestinal, and cardiovascular systems, among others. Published in the *Journal of Alzheimer's Disease* on Jan. 31, 2022, this study helps reveal a neurological impact as well, showing obesity may

play a role in the development of Alzheimer's and dementia.

"Our study strengthens previous literature pointing to [obesity](#) as a significant factor in AD by showing that cortical thinning might be one of the potential risk mechanisms," says Filip Morys, a Ph.D. researcher at The Neuro and the study's first author. "Our results highlight the importance of decreasing weight in obese and overweight individuals in midlife, to decrease the subsequent risk of neurodegeneration and dementia."

**More information:** Filip Morys et al, Obesity-Associated Neurodegeneration Pattern Mimics Alzheimer's Disease in an Observational Cohort Study, *Journal of Alzheimer's Disease* (2022). [DOI: 10.3233/JAD-220535](https://doi.org/10.3233/JAD-220535)

Provided by McGill University

Citation: Study finds obesity-related neurodegeneration mimics Alzheimer's disease (2023, January 31) retrieved 20 July 2024 from <https://medicalxpress.com/news/2023-01-obesity-related-neurodegeneration-mimics-alzheimer-disease.html>

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