

High-fat diet may cause changes in the brain that lead to anxiety and depression

October 19 2015

A new study in mice reveals that increased body weight and high blood sugar as a result of consuming a high-fat diet may cause anxiety and depressive symptoms and measurable changes in the brain.

Also, the beneficial effects of an antidepressant were blunted in mice fed a high-fat diet. "When treating depression, in general there is no predictor of treatment resistance," said Dr. Bruno Guiard, senior author of the *British Journal of Pharmacology* study. "So if we consider [metabolic disorders](#) as a putative treatment resistance predictor, this should encourage psychiatrists to put in place a personalized treatment with antidepressant drugs that do not further destabilize metabolism."

On the other hand, taking mice off a [high-fat diet](#) completely reversed the animals' metabolic impairments and lessened their anxious symptoms. "This finding reinforcing the idea that the normalization of metabolic parameters may give a better chance of achieving remission, particularly in depressed patients with type 2 diabetes," said Dr. Guiard.

The results set the tone for future investigations on potential mechanisms that may link metabolic and psychiatric disorders.

More information: Juliane Zemdegs et al. High fat diet-induced metabolic disorders impairs serotonergic function and anxiety-like behaviours in mice, *British Journal of Pharmacology* (2015). [DOI: 10.1111/bph.13343](#)

Provided by Wiley

Citation: High-fat diet may cause changes in the brain that lead to anxiety and depression (2015, October 19) retrieved 1 May 2024 from <https://medicalxpress.com/news/2015-10-high-fat-diet-brain-anxiety-depression.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.