

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

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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).
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