Ketamine reduces drinking in male, but not female, rats

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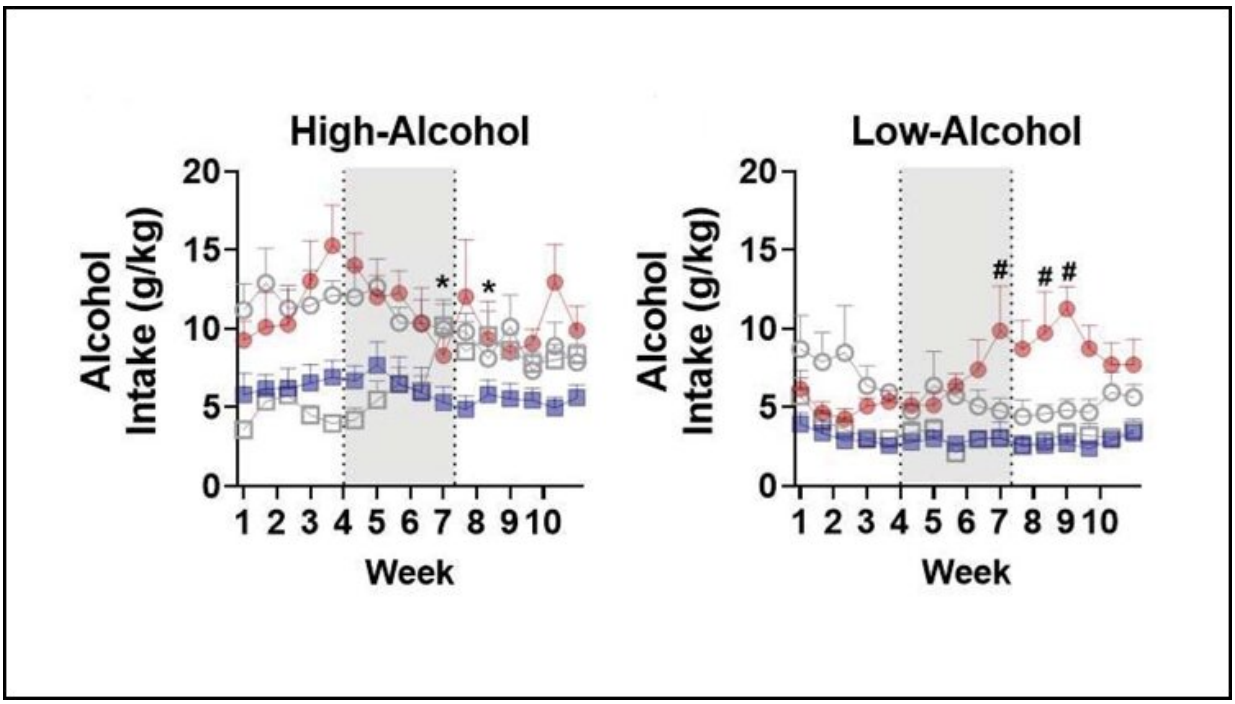

Ketamine decreases alcohol intake in high-alcohol intake male rats but increases it in low-alcohol intake females. Credit: Strong et al,. eNeuro 2019

The drug ketamine decreases alcohol consumption in male, but not female, rats, according to new research published in *eNeuro*. The findings suggest that ketamine may be a viable treatment option for male patients with an alcohol use disorder.

Prior studies found that ketamine reduces alcohol use disorder symptoms in both rats and humans, but the drug was administered once, rather than over a more realistic treatment time period. Ketamine is itself an addictive drug, so it is critical to examine how it affects patients over extended use.

Strong et al. divided male and female rats into groups based on how much alcohol they were prone to consume. The rats were allowed unrestricted access to alcohol three times a week. Three weeks later, ketamine treatments began.

Ketamine administration reduced alcohol consumption in high-consumption male rats, and the effects lasted at least three weeks after the ketamine treatments ended. Ketamine did not affect the habits of high-consumption female rats and increased drinking in low-consumption females. The female rats also displayed a higher risk of abusing ketamine compared to the male rats.

More information: Sex and Individual Differences in Alcohol Intake are Associated with Differences in Ketamine Self-Administration Behaviors and Nucleus Accumbens Dendritic Spine Density, *eNeuro*, DOI: 10.1523/ENEURO.0221-19.2019

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