Ketamine-like drug may be viable depression treatment

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A drug that affects the glutamate neurotransmitter system in a similar way to ketamine may have a sustained antidepressant effect without the pronounced psychological side-effects typically associated with ketamine use, reports a study published in Molecular Psychiatry.

Major depressive disorder affects an estimated 350 million people worldwide. Current treatment strategies for depression focus on the monoamine systems; however, given the slow speed at which they are effective and the large number of people who do not respond to this class of antidepressants, alternatives are needed. Recent evidence indicates that ketamine, a drug that affects the glutamate neurotransmitter system by blocking N-methyl-D-aspartate (NMDA) receptors, may have rapid-acting
antidepressant effects, but there are major limitations to the use ketamine as a treatment option for depressive disorders due to the psychosis-like side effects that can accompany its administration. A collaborative team led by Gerard Sanacora, Sanjeev Pathak and Michael Quirk investigated a low-trapping NMDA channel blocker called lanicemine, which is thought to affect brain circuits more selectively than ketamine. The results, including a placebo-controlled randomized Phase II study which involved 152 participants, suggest that lanicemine can deliver antidepressant efficacy without producing psychosis-like side effects. The authors observed a sustained antidepressant effect with repeated dosing of lanicemine over a period of 3 weeks, which persisted for several more weeks following the discontinuation of dosing.

This study suggests that glutamate-based therapeutics may have the potential to help treat major depressive disorder.

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