PRELIMINARY COMMUNICATION

SELECTIVE mGlu5 RECEPTOR ANTAGONIST MTEP ATTENUATES NALOXONE-INDUCED MORPHINE WITHDRAWAL SYMPTOMS

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Several lines of evidence suggest a crucial involvement of glutamate in the mechanism of drug addiction. The involvement of group I mGlu receptors in the mechanism of addiction has also been proposed. Given the recent discovery of selective and brain penetrable mGlu5 receptor antagonists, the effects of 3-[(2-methyl-1,3-thiazol-4-yl)ethynyl]-pyridine (MTEP) were evaluated in the naloxone-precipitated morphine withdrawal model. Experiments were performed on male C57BL/6J (20–25 g) mice. Mice were rendered morphine-dependent and withdrawal was precipitated with naloxone. Two hours and 15 min after the last dose of morphine, mice were injected with a mGlu5 receptor antagonist. MTEP (1–10 mg/kg) in a dose-dependent manner inhibited the naloxone-induced symptoms of morphine withdrawal in morphine-dependent mice, remaining without any effect on the locomotor activity of mice. The data suggest that selective mGlu5 receptor antagonists may play a role in the therapy of drug-dependence states.

Key words: mGlu5 receptors, MTEP, naloxone, morphine withdrawal, dependence

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