

Serotonin reuptake inhibitors attenuating morphine withdrawal syndrome in neonatal rats passively exposed to morphine

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摘要

Abstract

Previous investigations had shown that inhibitor of serotonin reuptake transporter (SERT) could attenuate morphine withdrawal syndrome in adult animals. In the present study, we determined whether postnatal injection of serotonin reuptake inhibitors, fluoxetine, clomipramine, or citalopram, is able to attenuate the expression of the naloxone-precipitated morphine withdrawal syndrome in 5-day-old neonatal Sprague–Dawley rats born to dams that received morphine injection since a week before mating till 5 days after delivery. Withdrawal syndrome of morphine, manifested as frequent abdominal stretching and yawning, was generated by injection of naloxone on postnatal day 5. Pre-injection with fluoxetine, clomipramine, or citalopram, significantly attenuated the naloxone-precipitated syndrome in a dose-dependent manner without apparent side effect. The rank order of inhibitory potency is citalopram=clomipramine>fluoxetine. This result suggests that inhibitor of SERT may be of potential in treating neonatal morphine withdrawal syndrome