

عنوان مقاله:

Involvement of central opiate receptors in modulation of centrally administered oxytocin-induced antinociception

محل انتشار:

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نویسندگان:

Amir Erfanparast - *Division of Physiology, Department of Basic Sciences, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran*

Esmaeal Tamaddonfard - *Division of Physiology, Department of Basic Sciences, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran*

Sahar Seyedin - *Graduated, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran*

خلاصه مقاله:

Objective(s): Oxytocin is involved in modulation of many brain-mediated functions. In the present study, we investigated the central effects of oxytocin and its receptor antagonist, atosiban on inflammatory pain. The contribution of opiate receptors was explored using non-selective and selective antagonists. Materials and Methods: The fourth ventricle of the brain of anesthetized rats was implanted with a guide cannula. Inflammatory pain in the orofacial region was induced by subcutaneous (SC) injection of formalin into the vibrissa pad, and time duration of face rubbing behavior was measured for ۴۵ min. Results: A typical biphasic pain was observed after formalin injection. This biphasic pain behavior was attenuated by intra-fourth ventricle administration of oxytocin (۱۲.۵، ۵۰، and ۲۰۰ ng/rat). Central prior administration of ۴۰۰ ng/rat atosiban (an oxytocin receptor antagonist), naloxone (a non-selective opiate receptor antagonist), naloxonazine (a selective μ -opiate receptor antagonist), and nor-binaltorphimine (a selective κ -opiate receptor antagonist), but not naltrindole (a δ -opiate receptor antagonist), prevented oxytocin-induced (۲۰۰ ng/rat) antinociception. Except for naltrindole, other antagonists increased pain intensity when used alone. Above-mentioned drugs did not alter locomotor activity. Conclusion: Oxytocin, as a neuropeptide neurotransmitter, may be involved in the supraspinal modulation of inflammatory pain through μ - and κ -, but not δ -opiate receptors.

کلمات کلیدی:

Fourth ventricle, Opioid receptors, Orofacial pain, Oxytocin, Rats

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