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Effect of morphine administration on human social motivation during stress

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Abstract

Physical social contact, such as grooming in primates or touch in humans, is fundamental to create and maintain social bonds. The Brain Opioid Theory of Social Attachment postulates that μ -opioids play a central role in social connection. Accordingly, pharmacological studies in isolated animals indicate that μ -opioid agonists reduce, and μ -opioid antagonists increase distress responses and motivation for social contact. Despite the abundance of animal studies, human evidence is still lacking. Here, we investigated the neurochemical basis of social motivation under stress in healthy human volunteers, following morphine (μ -opioid agonist) or placebo administration. By adopting a translational approach, real physical effort and facial hedonic reactions, together with self-reports of wanting and liking for social touch, were assessed. Preliminary results revealed increased adverse response to stress following morphine administration. In line with animal models and previous evidence in humans, this enhanced stress response led to increased motivation to obtain social touch.