

Interaction of opioids with antidepressant-induced antinociception

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The antinociceptive activity of antidepressant drugs is poorly understood. In this study, using the acetic acid writhing test in mice, the antinociception produced by clomipramine (CLO), maprotiline (MAP), imipramine (IMI), and zimelidine (ZIM) was tested and correlated with opioid drugs. All the compounds displayed a significant dose-dependent antinociception, which was not antagonized by naloxone (NX) or naltrexone (NTX). The administration of morphine (M) plus CLO, MAP, IMI or ZIM resulted in a significant additive effect that was antagonized by 1 or 10 mg/kg NX or NTX, except in the case of IMI. This finding suggests that the additive effect seems to be partially due to activation of opioid receptors, except for the case of imipramine. However, aminophylline, a non-selective blocker of A1/A2 adenosine receptors, significantly antagonized the antinociceptive activity of CLO, IMI, MAP and ZIM, demonstrating an interaction at the level of adenosine receptors. This work suggests that t