

THIS ADAPTATION CHANGES EVOKED BY CHRONIC EXPOSURE TO OPIATES, A ROLE OF THE ANTIPIOID SYSTEM

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ABSTRACT

In this paper we have reviewed hypothetical mechanisms underlying the development of opiate tolerance. Although the traditional mechanisms of receptor desensitization seem to play a role, they can not entirely explain the development of tolerance. Early investigations conducted on cells exposed to opiate action for a long period of time, showed that the number of opioid receptors was decreased in comparison to the cells without such exposure. Recent investigations, which were conducted *in vivo*, did not confirm these findings, so other mechanisms, such as intracellular phosphorylation or interaction between different opioid receptors, should be considered. Recently, researchers have discovered peptides, which can antagonize opiate action. We suggest that these peptides may be responsible for the development of opiate tolerance *in vivo*, and we point out especially to the two of them: neuropeptide FF and orphanin FQ, but further investigations are necessary to elucidate this issue.

Key words: opioids, opioid receptors, tolerance, antiopioid system.