SHORT COMMUNICATION

EFFECT OF NITRIC OXIDE SYNTHASE INHIBITION ON ANTINOCICEPTIVE ACTION OF DIFFERENT DOSES OF ACETAMINOPHEN

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As demonstrated in previous studies, both cyclooxygenases (COXs) and nitric oxide synthases (NOS) localized peripherally and/or centrally participate in the antinociceptive action of acetaminophen (ACETA). We showed that opioidergic system(s) was involved in the mechanism of ACETA action, as well. In previous and recent studies, the changes in nociceptive threshold were estimated using a mechanical and chemical stimulus.

In this study, the influence of nonspecific inhibitor of NOS [N\textsuperscript{G}-nitro-L-arginine (L-NOArg)] on antinociceptive action of ACETA administered icv and it was studied in rats. ACETA increased threshold for electrical stimuli, however, its analgesic activity was not dose-dependent. Independently of the route of administration, the existence of a ceiling dose of ACETA was observed above which the activity of ACETA was self-limited. Pretreatment with L-NOArg (ip) markedly increased the action of higher doses of ACETA. It suggests that the attenuation of analgesic action of higher doses of ACETA may be due to increased activity of NOS.

Key words: acetaminophen, antinociception, electrical stimuli

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