

Abstract

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Chronic treatment with ascorbic acid inhibits the morphine withdrawal response in guinea-pigs.

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OBJECTIVE: The effects of ascorbic acid (AA) were investigated on the morphine withdrawal response of guinea-pigs, a species which shares with man the inability to synthesize AA.

METHODS AND RESULTS: Chronic pretreatment of guinea-pigs with AA, 1 g/l, in drinking water for 3 days, or AA 200 mg/kg subcutaneously (s.c.) 3 times daily for 3 days, markedly reduced the locomotor and behavioural withdrawal responses of guinea-pigs given naloxone hydrochloride, 15 mg/kg s.c. 2 h after a single dose of morphine sulphate, 15 mg/kg s.c. AA, 1 g/kg given intraperitoneally (i.p.) 30 min before morphine had no significant effect on morphine withdrawal. However, intracerebroventricular injection of AA, 1 μ mol, 30 min before naloxone significantly enhanced morphine withdrawal.

CONCLUSION: It is concluded that chronic but not acute administration of AA inhibits opiate withdrawal.

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