

论文

福定碱对大鼠学习和记忆的作用

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摘要:

用大鼠逃避反射及家兔EEG等方法测试了从石杉科植物分离到的福定碱(fordine)对学习记忆的作用,10~40μg/kg ip或20μg/kg po明显加快大鼠主动回避反应形成速度,提高反应率;10~40μg/kg ip减少QNB破坏主动回避反应的作用;20~40μg/kg iv对抗QNB和樟柳碱引起家兔EEG的变化。福定碱每天40μg/kg ip连续8天,大鼠脑与浆胆碱酯酶活力为正常的88.8±8.8%。福定碱有效剂量小,安全系数大和口服有效的优点。以色列也加快大鼠主动回避反应形成,但未能对抗QNB的破坏作用。

关键词: 福定碱 以色列 樟柳碱 学习 记忆

THE EFFECT OF FORDINE ON LEARNING AND MEMORY IN RATS

CHEN Shi-Ming and XUE Zheng-Guo

Abstract:

Fordine, a new alkaloid, was extracted from Chinese herbs Huperziaceae, including *Phlegmariurus fordii* (Baker) Ching and *Huperzia serrata* (Thunb.) Trey. It has been shown to inhibit true cholinesterase activity selectively (LD₅₀=3.0 mg/kg ip, 3.6 mg/kg po in mice) and to have therapeutic effect on experimental animal myasthenia gravis. Fordine at doses of 10, 40 μg/kg ip or 20 μg/kg po before training caused rapid formation of active avoidance response and significantly increased the active avoidance response in rats. Reversal effect of fordine (10~40 μg/kg ip) against quinuclidinyl benzilate (QNB) 800 μg/kg ip induced impairment of active avoidance response was also observed. QNB (30 μg/kg iv)-or anisodine (500 μg/kg iv)-induced EEG changes of rabbits were antagonized with fordine at doses of 20~40 μg/kg iv. Under the same conditions, eserine facilitated the active avoidance response but failed to protect it from QNB. It is suggested that fordine may be a useful compound for improvement of learning and memory.

Keywords: Eserine Anisodine Learning Memory Fordine

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