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论著

环壬酯等抗胆碱药对不同致惊厥剂的对抗作用

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摘要 目的 探讨苯环壬酯抗惊厥的作用是否与非胆碱能系统有关。方法 大鼠sc梭曼180 μg·kg^{-1}，惊厥出现后不同时间（5，20及40 min）ip不同剂量阿托品、东莨菪碱及苯环壬酯，观察上述药物的抗梭曼致惊疗效。小鼠ip阿托品(1，5，10，20，40，60 mg·kg^{-1})、东莨菪碱(1，5，10，20，40，60 mg·kg^{-1})及苯环壬酯(1，4，8，16 mg·kg^{-1})后30 min sc戊四氮95 mg·kg^{-1}或ip *N*-甲基-*D*-天冬氨酸(NMDA)175 mg·kg^{-1}。结果 随着惊厥的延续，阿托品、东莨菪碱的抗惊作用逐渐下降，并最终在惊厥发作后40 min完全消失；而苯环壬酯在惊厥发作后的各个阶段（惊厥后5，20，40 min），特别是在惊厥发作后40 min，ip苯环壬酯（8 mg·kg^{-1}）仍具有很好的抗惊作用。此外，上述抗胆碱药中，只有苯环壬酯（4，8，16 mg·kg^{-1} ip）可以显著对抗戊四氮所致的惊厥；6，8，12 mg·kg^{-1}可拮抗致死剂量NMDA中毒。结论 不同于阿托品及东莨菪碱，苯环壬酯在梭曼所致惊厥后期仍有效，并可以对抗戊四氮所致惊厥及致 死剂量NMDA中毒。

关键词 苯环壬酯 梭曼 惊厥 胆碱酯酶抑制剂

分类号 R971

Antagonism of phencynonate and other anticholinergics against different convulsants

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Abstract

AIM To study if non cholinergic mechanism is involved in the antagonism of phencynonate against soman- induced seizure. **METHODS** Rats were received soman 180 μg·kg^{-1} sc, different doses of atropine, scopolamine or phencynonate were administrated in different times (5, 20 and 40 min) after the soman induced seizure onset. Mice were injected at ropine(1, 5, 10, 20, 40, 60 mg·kg^{-1} ip), scopolamine(1, 5, 10, 20, 40, 60 mg·kg^{-1} ip) or phencynonate(1, 4, 8, 16 mg·kg^{-1} ip) 30 min before received convulsant doses of pentylenetetrazol(95 mg·kg^{-1} sc) or lethal dose of *N*-methyl-*D*-aspartate (NMDA 175 mg·kg^{-1} ip). **RESULTS** The anticonvulsant effects of atropine, scopolamine decreased along with the sustaining of seizure, and eventually lost their anticonvulsant activities if seizure had lasted for 40 min. In contrast, phencynonate showed a good anticonvulsant effectiveness at 5, 20 min, especially at 40 min after the seizure onset. Among the three dru gs, only phencynonate 4, 8, 16 mg·kg^{-1} ip could control the pentylenetetrazol- induced seizure and phencynonate, 4, 8, 12 mg·kg^{-1} ip could antagonize the lethal effects of NMDA in mice. **CONCLUSION** Being different from atropine and scopolamine, phencynonate can still afford protection in the later time of soman-induced seizure; and it can also control the pentylenetetrazol-induced seizure and antagonize the NMDA-induced lethality.

Key words phencynonate soman seizure cholinesterase inhibitors

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