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论著

右美托咪定对氯胺酮镇痛及催眠的增强作用

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摘要

目的 探讨右美托咪定（DMM）对氯胺酮（Ket）镇痛及催眠作用的影响。**方法** 采用热板法观察DMM 10 μg·kg^{-1}对Ket 25 mg·kg^{-1}热板痛阈（HPPT），扭体法观察DMM 5 μg·kg^{-1} 对Ket 25 mg·kg^{-1}扭体次数的影响；翻正反射法观察DMM 40 μg·kg^{-1}对Ket 100 mg·kg^{-1}翻正反射消失持续时间的影响。**结果** 热板法实验中，与正常对照组相比，单独给DMM在5～15 min HPPT明显延长（P<0.05, P<0.01），Ket麻醉组在5 min HPPT明显延长（P<0.01）。与Ket麻醉组相比，合用DMM组，HPPT增加更明显（P<0.05, P<0.01）。与DMM+Ket合用组相比，DMM+阿替美唑（Ati）+Ket合用组HPPT明显降低（P<0.05, P<0.01），且与Ket麻醉组相当，10 min后与正常对照组接近。扭体法实验中，与正常对照组相比，单用DMM组及Ket麻醉组的扭体次数明显减少（P<0.01）；两者合用后，扭体次数减少更明显，与Ket麻醉组相比有显著差异（P<0.01）。与DMM+Ket组相比，DMM+Ati+Ket组的扭体次数明显增加（P<0.01），且与单用DMM组和Ket麻醉组相当，但依旧明显低于正常对照组（P<0.01）。翻正反射法实验中，与Ket麻醉组相比，DMM+Ket合用组的翻正反射消失持续时间明显延长（P<0.01）。与DMM+Ket合用组相比，DMM+Ati+Ket合用组的翻正反射消失持续时间明显缩短（P<0.01），且与Ket麻醉组接近。**结论** 合用右美托咪定，氯胺酮的镇痛及催眠作用增强，而α_2受体可能是该效应的主要受体机制之一。

关键词 右美托咪定 氯胺酮 阿替美唑 镇痛 催眠

分类号 R971.3

Enhancement of dexmedetomidine on analgesic and hypnotic effects of ketamine

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Abstract

OBJECTIVE To explore effects of dexmedetomidine(DMM) on analgesic and hypnotic effects of ketamine(Ket). **METHODS** Effect of DMM 10 μg·kg^{-1} on hot plate pain threshold (HPPT) of Ket 25 mg·kg^{-1} was detected by hot-plate test. Effect of DMM 5 μg·kg^{-1} on writhing times of Ket 25 mg·kg^{-1} was detected by writhing test and effect of DMM 40 μg·kg^{-1} on the duration of righting reflex disappearance of Ket 100 mg·kg^{-1} was detected by hypnotic test. **RESULTS** In hot- plate test, compared with normal control group, HPPT was significantly prolonged within 5-15 min when given DMM alone(P<0.05, P<0.01), and HPPT was significantly prolonged at 5 min when given Ket alone (P<0.01). Compared with Ket group, HPPT significantly increased in DMM+Ket group(P<0.05, P<0.01). Compared with DMM+Ket group, HPPT significantly decreased in DMM+atipamezole(Ati)+Ket group (P<0.05, P<0.01) and was similar with Ket group. In writhing test, compared with normal control group, writhing times significantly decreased in DMM group and Ket group(P<0.01), and the writhing times more significantly decreased in Ket+DMM group (P<0.01). Compared with DMM+Ket group, the writhing times increased significantly in DMM+Ati+Ket group (P<0.01) and was similar with DMM group or Ket group, but it still was lower than normal control group (P<0.01). In hypnotic test, compared with Ket group, the duration of righting reflex disappearance was significantly prolonged (P<0.01) in DMM+Ket group. Compared with DMM+Ket group, the duration of righting reflex disappearance was significantly shortened (P<0.01) and was similar with Ket group in DMM+Ati+Ket group. **CONCLUSION** The analgesic and hypnotic effects of Ket are enhanced combined with DMM, and the alpha 2 receptor may be one of the major receptors in their mechanisms.

Key words dexmedetomidine ketamine atipamezole analgesic hypnotic

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