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论著

爱地那非对阴茎勃起功能的影响

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摘要 目的 研究开发新型阴茎勃起功能障碍防治药物。方法 采用 阿扑吗啡刺激中枢兴奋引起清醒雄性大鼠勃起模型,通过记录海绵体内压，观察爱地那非对 勃起潜伏期（TFR）、30 min内勃起次数（PP30）、勃起强度（AUC）、勃起持续时间（D） 的影响；采用去势大鼠模型，观察柠檬酸爱地那非灌胃给药对电刺激大鼠阴茎TFR的影响 ；采用小鼠去势模型，观察小鼠捕捉潜伏期及捕捉次数影响。结果 大鼠给予爱地那非1 h后，可使阿扑吗啡诱导的TFR缩短，PP30，D，AUC增加， 3，10 mg·kg^{-1}爱地那非 使TFR分别缩短28.1%, 43.0%；24 h后爱地那非10 mg·kg^{-1}仍可缩短TFR，较对 照组比较缩短27.7%。3，10 mg·kg^{-1}爱地那非使PP30分别增加42.3%,42.3%， 可使D分别增加89.3%，91.5%，AUC分别增加30.3%，74.9%，10 mg·kg^{-1}仍可使24 h后AUC明显延长。爱地那非6，20 mg·kg^{-1}可使去势大鼠延长的TFR分别缩短47.9%，78.8%，使延长的TFR缩短一半所需的剂量为6.4 mg·kg^{-1}；爱地那非4.5及15 mg·kg^{-1}可使去势小鼠捕捉潜伏期分别缩短125.8%，153.0%，其延长的潜伏期恢复 到正常所需的剂量为3.3 mg·kg^{-1}。爱地那非1.5，4.5和15 mg·kg^{-1}可使去 势小鼠爬背次数分别增加1.7, 1.9和3.3倍，其爬背次数恢复到正常所需剂量为11.4 mg·kg^{-1}。结论 爱地那非对性功能具有明显的改善作用，有望成为治疗起勃功 能障碍药物。

关键词 磷酸二酯酶抑制剂 爱地那非 阴茎勃起 潜伏期

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Effects of aildenafil on penile erection

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Abstract

AIM To develop a new drug for prevention and therapy of penile erectile dysfunction. **METHODS** Intracavernous pressure was recorded in awake male Wistar rats were injected subcutaneously with apomorphine, aildenafil (1-［［3-(6,7-dihydro-1-ethyl-7-oxo-3-propyl-1*H*-pyrazolo［4,3-d］primidin-5-yl)-4- ethoxyphenyl］sulfonyl］-*cis*-3,5-dimethylpiperazine citrate) was then given 1 h before a second dose of apomorphine. The time to first response(TFR), peaks within 30 min(PP30), erection strength, duration of erection(D) were measured before and after drug administration. The latency time of erection was recorded in emasculative rat model, and the latency time and times to mounting were measured in emasculative mouse model. RESULTS The apomorphine-induced increase of TFR was significantly shortened by 28.1%, 43.0%, respectively by aildenafil 3, 10 mg·kg^{-1} 1 h after administration. The efficacy lasted for 24 h at 10 mg·kg^{-1}. PP30 increased by 42.3%, 42.3%, D prolonged by 89.3%, 91.5% and AUC elevated by 30.3%, 74.9%, respectively 1 h after aildenafil 3, 10 mg·kg^{-1} administration as compared to control group. The emasculation-increased latency time of erection was shortened by 47.9%, 78.8% after aildenafil 6, 20 mg·kg^{-1} administration, with ED_{50} 6.4 mg·kg^{-1} in emasculation rats, and the emasculation-increased latency time to mounting was shortened by 125.8%, 153.0% with the dose 3.3 mg·kg^{-1} required for recovered to normal after aildenafil 4.5, 15 mg·kg^{-1}. The times to mounting increased by 1.7, 1.9 and 3.3 fold, respectively after 1.5, 4.5, 15 mg·kg^{-1} with the dose 3.3 mg·kg^{-1} required for 11.4 mg·kg^{-1} in emasculation mice. **CONCLUSION** Our results demonstrated that ail denafil ig has ameliorative efficacy on sexual function.

Key words phosphodiesterase inhibitors aildenafil penile erection latent period

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