

论文

异槲皮甙提高大鼠脑内cGMP水平并加强电针镇痛

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摘要:

在本工作中我们发现,给大鼠侧脑室注射一种分解cGMP的磷酸二酯酶(cGPDE)抑制剂异槲皮甙可使大鼠间脑和低位脑中cGMP水平明显提高;同时还观察到端脑、间脑和脑干等三个脑区中cAMP含量普遍下降。脑室注射异槲皮甙20,40,80μg,引起与剂量相关的镇痛作用。脑室注射异槲皮甙2Dμg本身只有微弱镇痛作用,但可明显加强电针的镇痛效果。另外,凡异槲皮甙引起明显镇痛的大鼠,电针时也有良好的镇痛作用,两者间呈正相关关系。以上结果说明脑内cGMP在传递电针镇痛中起重要作用。

关键词: 环磷酸鸟苷 异槲皮甙 电针镇痛

ISOQUERCITRIN INCREASES BRAIN cGMP LEVEL AND POTENTIATES ELECTROACUPUNCTURE (EA) ANALGESIA

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Abstract:

In a previous study we have reported that icy injection of aminophylline or imidazole serving as inhibitor or activator of phosphodiesterase for cAMP respectively, was capable of increasing or decreasing the brain level of endogenous cAMP. EA analgesia was found to be markedly antagonized by aminophylline and significantly augmented by imidazole. In the present study we have found that icy injection of isoquercitrin, an inhibitor of cGMP phosphodiesterase, resulted in an increase of cGMP level in the diencephalon and lower brain stem, as well as a generalized decrease of cAMP level in the telencephalon, dienecephalon and brain stem in the rat. Icy injection of isoquercitrin (20, 40, 80 μg) produced a dose-dependent antinociceptive effect. The effect of EA analgesia was significantly potentiated by the icy injection of 20μg of isoquercitrin which, by itself, exhibited only very weak analgesic effect. Moreover, a positive correlation was found between the isoquercitrin analgesia and EA analgesia in the same group of 30 rats. The results seem to support the conclusion that central cGMP plays an important role in mediating EA analgesia.

Keywords: Isoquercitrin Acupuncture Analgesia cGMP

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