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论著

小补心汤总黄酮对慢性应激大鼠星形神经胶质细胞的保护作用

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摘要

目的 研究小补心汤总黄酮（XBXT-2）对海马及前额皮质神经胶质细胞的影响。**方法** 采用连续28 d每天给予大鼠1或2种不可预测的刺激建立慢性应激模型，同时每日单次ig给予XBXT-2 25和 50 mg·kg^{-1}。采用免疫组化方法观察大鼠海马齿状回颗粒下层、CA3区和前额皮质星形胶质细胞的影响。**结果** 免疫组化结果表明，慢性应激大鼠海马齿状回颗粒下层、CA3区和前额皮质星形胶质细胞数目减少，形态萎缩，吸光度值显著降低（P<0.01）。伴随给予XBXT-2 25和50 mg·kg^{-1}可显著逆转这一改变， 吸光度值显著增加（P<0.01），阳性药丙米嗪具有同样的作用。**结论** XBXT-2可逆转海马齿状回颗粒下层、CA3区和前额皮质星形胶质细胞的应激性损伤，这可能是其抗抑郁作用的重要细胞分子机制之一。

关键词 小补心汤 总黄酮 星形胶质细胞 抗抑郁 应激

分类号 R285,R964

Protection of total flavonoids extracted from Xiaobuxin-Tang on astrocytes

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Abstract

OBJECTIVE To investigate the effect of the total flavonoids extracted from Xiao buxin-Tang (XBXT-2) on neuroglial cells in hippocampus and prefrontal cortex of chronically stressed rats. **METHODS** Rats were exposed to one or two unexpected stresses daily for 28 consecutive days. XBXT-2 25 and 50 mg·kg^{-1} were administered intragastrically once a day for 28 d. Astrocytes in hippocampal subgranular zone （SGZ）, CA3 and prefrontal cortex was detected by immunohistochemistry assay. **RESULTS** Immunohistochemistry results showed that 28 d stress produced significant reduction and dendritic shrinkage of astrocytes in hippocampal SGZ, CA3 and prefrontal cortex, and the absorbance was significantly decreased (P<0.01). Concomitant administration of XBXT-2 25 and 50 mg·kg^{-1} reversed these changes and significantly increased the absorbance (P <0.01). Positive drug imipramine exerted similar effects. **CONCLUSION** XBXT-2 can significantly reverse stress- induced injury in astrocytes, which may be a crucial molecular and cellular mechanism underlying its antidepressant action.

Key words Xiaobuxin-Tang total flavonoids astrocytes antidepressant stress

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