

论文

丁基苯酞对大鼠全脑缺血纹状体细胞外液氨基酸和多巴胺含量的影响

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摘要:

用大鼠4动脉阻断全脑缺血模型和大鼠纹状体灌流方法,观察到大鼠急性全脑缺血20min,纹状体细胞外液谷氨酸、牛磺酸、γ-氨基丁酸及多巴胺含量显著升高。丁基苯酞40 mg·kg⁻¹能使全脑缺血20 min纹状体细胞外液多巴胺及其代谢产物DOPAC含量明显降低,并能降低缺血前后纹状体细胞外液甘氨酸含量,而对谷氨酸等其他氨基酸无显著影响。结果提示丁基苯酞对缺血性脑损伤可能有保护作用。

关键词: 全脑缺血 丁基苯酞 甘氨酸 多巴胺 纹状体

EFFECT OF DL-3-BUTYLPHTHALIDE ON THE STRIATUM EXTRACELLULAR AMINO ACID AND DOPAMINE CONTENTS IN THE RAT DURING CEREBRAL ISCHEMIA

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Abstract:

The effect of dl-3-butylphthalide (NBP) on the contents of amino acids and dopamine in the rat striatum during globe cerebral ischemia has been studied. By using the technique of microperfusion in the striatum of rats subjected to 4-vessel occlusion cerebral ischemia, the extracellular contents of glutamate, taurine, γ-aminobutyric acid and dopamine were found to be significantly increased in the striatum during the 20 min of cerebral ischemia. NBP (40 mg·kg⁻¹, ip 30 min before ischemia) was shown to reduce the contents of dopamine and its metabolite, 3,4-dihydroxyphenylacetic acid (DOPAC), in the striatal extracellular fluid of the rat during ischemia. The content of glycine before and after ischemia was also reduced. However, no significant effect on the contents of glutamate and some other amino acids was observed. The results suggest that NBP may improve the striatal ischemic injury.

Keywords: dl-3-Butylphthalide Excitatory amino acid Dopamine Striatum microperfusion Global ischemia

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