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论文

淋巴性脑水肿大鼠孤束背内侧亚核Glu、GABA及GAD67的时程变化

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摘要：

目的 观察淋巴性脑水肿（LBE）模型大鼠孤束背内侧亚核（dmNTS）内谷氨酸（Glu）、γ-氨基丁酸（GABA）的改变及谷氨酸脱羧酶亚型67（GAD67）表达的时程变化，并探讨其意义。方法 应用免疫组化方法，观察LBE大鼠dmNTS内Glu、GABA及GAD67在颈淋巴引流阻滞后不同时间点的变化情况。结果 LBE组Glu改变及GAD67表达在颈淋巴引流阻滞后1d即开始升高，至第7天达高峰，后逐渐下降，于21d恢复；而GABA在颈淋巴引流阻滞后1d即开始降低，至第7天降至最低，后逐渐升高，于21d恢复。结论 LBE大鼠dmNTS内Glu和GABA的改变可能参与了血压调节功能的降低；GAD67早期表达逐渐增加，可能是机体的一种代偿性机制，有助于神经递质水平的平衡和恢复。

关键词： 淋巴性脑水肿；孤束背内侧亚核；谷氨酸；γ-氨基丁酸；谷氨酸脱羧酶亚型67；大鼠

Temporal alterations of Glu, GABA and GAD67 in dmNTS in rats with lymphatic brain edema

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Abstract:

Objective To investigate temporal alterations of glutamic acid (Glu), gamma-aminobutyric acid (GABA) and glutamic acid decarboxylase isoform 67 (GAD67) in the dorso-medial nucleus of tractus solitarii (dmNTS) in rats with lymphatic brain edema (LBE) induced by cervical lymphatic blockage (CLB). Methods Sprague-Dawley (SD) rats were randomly divided into three groups： the normal group, the sham operated group and the LBE group. Glu, GABA and GAD67 in dmNTS in rats were detected by immuohistochemistry 1, 3, 7, 11, 15 and 21 days after CLB or sham operation. Results Expressions of Glu and GAD67 increased 1 day after CLB, reached a peak on the 7th day, then gradually stepped down and recovered on the 21st day. Whereas reverse changes were observed in expression of GABA. No apparent difference was shown in the normal and sham operated groups. Conclusions Alterations of Glu and GABA may participate in the dysfunction of blood pressure regulation. Early ascending expression of GAD67 promotes transformation from Glu to GABA, which contributes to neuro-functional recovery in rats with LBE.

Keywords: Lymphatic brain edema; Dorsomedial nucleus of tractus solitarii; Glutamic acid; Gamma-aminobutyric acid; Glutamic acid decarboxylase isoform 67; Rats

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