

论著

灵芝孢子粉对癫痫大鼠脑IGF-1、NF-κB表达及神经细胞凋亡的影响

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摘要 目的: 观察和探讨灵芝孢子粉对戊四氮 (PTZ) 致病大鼠脑胰岛素样生长因子-1 (IGF-1)、核转录因子-κB (NF-κB) 蛋白表达及神经细胞凋亡的影响。方法: 用亚惊厥剂量的PTZ复制大鼠慢性癫痫模型, 用药组以灵芝孢子粉灌胃, 记录癫痫发作的潜伏期及持续时间, 采用免疫组织化学和TUNEL法分别检测脑IGF-1、NF-κB/P65的免疫反应性和神经细胞凋亡情况。结果: 大鼠海马和皮质区每高倍视野 (×400) 下平均凋亡细胞数模型组 (18.80±2.13、16.87±2.00) 明显多于对照组 (0.97±0.52、0.58±0.25), IGF-1、NF-κB/P65蛋白表达模型组明显高于对照组 (均P<0.01); 在造模第17、21、25 d时用药组较模型组癫痫发作的潜伏期有所延长 (分别为P<0.05, P<0.05, P<0.01), 海马和皮质区凋亡细胞数用药组 (12.30±2.46、10.48±1.33) 明显少于模型组, NF-κB/P65蛋白表达用药组低于模型组, 而IGF-1的免疫反应性用药组明显强于模型组。结论: IGF-1、NF-κB 及神经细胞凋亡均可能参与了PTZ致病的发生发展过程, 灵芝孢子粉能明显抑制NF-κB蛋白的表达, 增强IGF-1的免疫反应性, 可能是其对癫痫所致神经细胞凋亡有明显抑制, 从而对神经细胞起保护作用的机制之一。

关键词 癫痫; 大鼠; 灵芝孢子粉; NF-κB; 细胞凋亡

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Effect of Ganoderma lucidum spores powder on the expression of IGF-1, NF-κB and apoptosis of nerve cells in the brain from epileptic rat

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Abstract

AIM: To investigate the effect of Ganoderma lucidum spores powder on the expression of insulin-like growth factor-1 (IGF-1), nuclear factor-κB (NF-κB) and apoptosis of nerve cells in rats with epilepsy established by pentetrazole. METHODS: The sub-eclampsia dosage of pentetrazole (PTZ) was used to make epilepsy model. Ganoderma lucidum spores powder group was given from stomach. The enduring time and latent period were recorded. The immune reactivity of IGF-1, NF-κB/P65 and apoptosis of nerve cells were measured with immunohistochemical staining and TUNEL method. RESULTS: In high power sight (×400), there were much more apoptosis cells in hippocampus and brain cortex of model group (18.80±2.13, 16.87±2.00) than those in control group (0.97±0.52, 0.58±0.25). The expressions of IGF-1, NF-κB in model group were higher than those in control group. Compared with model group, the latent period of Ganoderma lucidum spores powder group at the 17th, 21th, 25th days were longer (P<0.05, P<0.05, P<0.01, respectively). There were less apoptosis cells in hippocampus and brain cortex of Ganoderma lucidum spores powder group (12.30±2.46, 10.48±1.33) than those in model group. The expression of NF-κB/P65 in Ganoderma lucidum spores powder group was lower than that in model group, but the immune reactivity of IGF-1 increased more distinctly in Ganoderma lucidum spores powder group than that in model group. CONCLUSION: IGF-1, NF-κB and apoptosis of nerve cells may have play a role in occurrence and development of PTZ-induced epilepsy. Ganoderma lucidum spores powder can suppress expression of NF-κB strongly, and facilitate the immune reactivity of IGF-1, which may be one of

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the mechanisms by which Ganoderma lucidum spores powder restrains the apoptosis of nerve cells caused by epilepsy to prevent the damages of nerve cells.

Key words [Epilepsy](#) [Rats](#) [Ganoderma lucidum spores powder](#) [NF-kappa B](#) [Apoptosis](#)

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