

论著

β -七叶皂苷对大鼠脑缺血再灌注损伤时炎症反应的抑制作用

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摘要 目的 研究 β -七叶皂苷对大鼠脑缺血再灌注损伤的保护作用是否与其抑制炎症反应有关。方法 大鼠缺血前分别给予 β -七叶皂苷15, 30, 60 mg·kg⁻¹, ig, 7 d, 末次给药1 h后线栓法制备大脑中动脉阻断短暂局灶性脑缺血模型, 缺血2 h, 再灌注22 h, 评价神经功能状态和脑梗死范围; 用伊文思兰法测定脑缺血2 h再灌3 h后对血脑屏障的损伤程度。用放射免疫、酶联免疫分析及免疫印迹的方法测定大鼠缺血区白介素-8(IL-8), 肿瘤坏死因子- α (TNF- α)及核因子- κ B(NF- κ B)的表达。结果 β -七叶皂苷能显著降低脑缺血再灌注后脑梗死体积, 改善神经功能症状, 其脑内IL-8, TNF- α 的活性显著降低, NF- κ B的表达显著减少, 与模型组相比具有统计学显著意义。结论 β -七叶皂苷通过抑制炎症物质的表达和释放对大鼠脑缺血再灌注损伤具有明显保护作用。

关键词 [\$\beta\$ -七叶皂苷](#) [白介素-8](#) [肿瘤坏死因子](#) [核因子- \$\kappa\$ B](#) [脑缺血](#)

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Inhibitory effect of β -aescin on inflammatory process following focal cerebral ischemia-reperfusion in rats

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Abstract

AIM To investigate if the beneficial effects of β -aescin on ischemia/reperfusion (I/R) induced cerebral injury are related to the inhibition of expressions of pro-inflammatory cytokines. **METHODS** Rats were pretreated ig with β -aescin for 7 d and then subjected to cerebral I/R injury induced by a middle cerebral artery occlusion. The infarct volume and the neurological deficit were determined by the method of TTC staining and the Longa's score. The permeability of the blood brain barrier was evaluated by measurement of the Evans blue (EB) content in the brain with spectrophotometer. The serum contents of interleukin-8 (IL-8) and tumor necrosis factor- α (TNF- α) protein were determined by radioimmunoassay and ELISA assay. The expression of nuclear factor- κ B (NF- κ B) was evaluated with Western blot. **RESULTS** β -Aescin significantly reduced infarct volume ($P < 0.05$ or $P < 0.01$), ameliorated the neurological deficit and reduced the permeability of blood brain barrier ($P < 0.05$). Pretreated with β -aescin 30 and 60 mg·kg⁻¹, the serum content of IL-8 and the expressions of TNF- α and NF- κ B protein in brain tissue were significantly decreased ($P < 0.05$). **CONCLUSION** β -Aescin has protective effects on cerebral injury through inhibiting the expression and release of the inflammatory mediators after I/R injury.

Key words [\$\beta\$ -aescin](#) [interleukin-8](#) [tumor necrosis factor](#) [nuclear factor- \$\kappa\$ B](#) [brain ischemia](#)

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