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银杏内酯B对缺氧缺血性脑损伤新生大鼠内源性神经干细胞的影响

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摘要：

摘要目的：观察不同剂量银杏内酯B（GB）对缺氧缺血性脑损伤（HIBD）新生大鼠内源性神经干细胞增殖分化的影响。方法：清洁级7d龄SD大鼠96只，随机分为假手术组、模型组、低剂量组及高剂量组，后3组采用经典Rice法制作HIBD动物模型，模型制作4h后低剂量组与高剂量组分别按5mg/kg、10mg/kg腹腔注射GB，其他两组分别注射等量生理盐水，每日1次，共5 d。每组随机分别在造模后第3，7，14，28天处死，单标、双标免疫组化技术观察4组大鼠海马齿状回颗粒下层区（SGZ）溴脱氧尿嘧啶核苷（BrdU+）及皮质BrdU+/nestin+（聚蛋白）、BrdU+/NSE+（神经元特异性烯醇化酶）、BrdU+/GFAP+（胶质纤维酸性蛋白）阳性细胞的表达，并计数分析。结果：HIBD后BrdU+、皮质BrdU+/nestin+、BrdU+/NSE+、BrdU+/GFAP+细胞数增加，低剂量组、高剂量组均高于模型组，GB高剂量组的阳性细胞数高于GB低剂量组。结论：GB能提高HIBD新生鼠内源性神经干细胞增殖、分化的能力，提示其可以促进神经发生。

关键词：缺氧缺血性脑损伤 银杏内酯B 内源性神经干细胞

Effects of Ginkgolide B on endogenous neural stem cells of newborn rats with hypoxic-ischemic brain damage

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Fund Project:

Abstract:

Abstract Objective: To observe the effects of Ginkgolide B (GB) on proliferation and differentiation of endogenous neural stem cells of newborn rats with hypoxic-ischemic brain damage (HIBD). Method: A total of 96 clean 7-days-old health SD rats were randomly divided into sham operation group, the model group,low and high dose treatment groups.Classic Rice method was used to establish HIBD model in the latter 3 groups. Four hours after operation, GB in doses of 5mg/kg and 10mg/kg were given to the rats in low and high dose treatment groups by intraperitoneal injection postoperation, once a day for 5 days, sham operation and model groups with equal quantity of physiological saline. All groups were sacrificed respectively at the 3rd d,7th d,14th d,28th d. Then the number of bromodeoxyuridine (BrdU) positive cell were measured in subgranular zone(SGZ) by immunohistochemistry and the number of BrdU-nestin, BrdU-GFAP, BrdU-NSE double positive cells in cortex were counted and investigated by immunofluorescence double staining. Result: The number of BrdU positive cell and BrdU-nestin, BrdU-GFAP, BrdU-NSE double positive cells increased after HIBD, in low and high dose treatment groups those were all higher than those in model group; the number of positive cells in high dose treatment group were higher than that in low dose treatment group. Conclusion: GB can improve the capability of proliferation and differentiation of endogenous neural stem cells in HIBD rats, which indicates that it may promote neurogenesis.

Keywords:hypoxic-ischemic brain damage ginkgolide B endogenous neural stem cell

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