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胰岛素治疗对脑出血后应激性血糖增高患者血清NSE水平的影响

Clinical Significance of Neuron-specific Enolase Levels by Insulin Therapy on Stress Hyperglycemia after Cerebral Hemorrhage

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中文摘要：

目的 探讨小剂量胰岛素对脑出血后应激性血糖增高患者血清神经元特异性烯醇化酶(neuron-specific enolase，NSE)水平的影响及临床意义。方法 选2011年10月至2012年11月在辽宁医学院附属第三医院66例既往无糖尿病史、出血量15~30 mL的基底节脑出血且血糖值为7.8~11.1 mmol·L^{-1}患者，随机分为胰岛素治疗组(n=34)及常规治疗组(n=32)。正常对照组(n=30)，为同期健康体检者。治疗组每2 h检测1次血糖，以预防低血糖。用ELISA法动态测定血清中NSE的水平，治疗期间脑血肿变化，及评定治疗组患者治疗期间神经功能缺损评分，并随访3个月后观察比较患者预后。结果 胰岛素治疗组及常规治疗组患者均在12 h内NSE水平较正常对照组开始升高(P<0.01)，治疗组在24 h内差异无统计学意义；胰岛素治疗组在第3天达到峰值并开始下降，常规治疗组7 d达到峰值并开始下降，胰岛素治疗组在3 d内与常规治疗组比较不具有统计学意义，7 d后与常规治疗组比较有显著性差异(P<0.01)；胰岛素治疗组21 d内均高于正常对照组，28 d与正常对照组差异无统计学意义；常规治疗组到28 d时NSE水平均高于正常对照组(P<0.01)。治疗第14天、第28天，胰岛素治疗组血肿体积明显小于常规治疗组(P<0.01)。在14 d、28 d的胰岛素治疗组的神经功能缺损评分与常规治疗组相比差异有统计学意义(P<0.05)。3个月后随访，2组治疗组ADL分级比较差异有统计学意义(P<0.05)。结论 脑出血继发应激性血糖增高患者早期应用胰岛素治疗可以保护神经元，改善神经功能缺损，减少神经细胞损害及脑出血后的继发性损伤，促进神经功能恢复，改善患者预后。

英文摘要：

OBJECTIVE To explore the clinical significance of Neuron-specific enolase(NSE) levels of insulin therapy on stress hyperglycemia after cerebral hemorrhage. METHODS Sixty-six cases of intracerebral hemorrhage patients whose hematoma volumes in basal

ganglia was 15-30 mL, and the blood glucose was 7.8-11.1 mmol·L^{-1}, were randomly selected and divided into therapy group(n=34) and routine therapy group(n=32). The control group(n=30) were healthy people. Those two therapy groups' blood glucose were tested once every 2 h to prevent hypoglycemia. Serum NSE level was detected with ELISA method. Changes in cerebral hematoma and neurological deficit scores were compared during treatment, and the curative effects were compared between both therapy group and routine therapy group after 3 months of therapy. RESULTS The concentrations of NSE in the two treatment groups increased within 12 h compared with the control group ($P<0.01$), and there were no significant difference in 24 h. The therapy group reached its NSE peak in the first 3 d and then began to decline, while the routine therapy group in 7 d. The concentrations of NSE in the therapy group had no significant differences than that in the routine therapy group within 3 d, but decreased rapidly than that in the routine therapy treatment group after 7 d($P<0.01$). However the NSE in the therapy group were higher than that in control group within 21 d($P<0.01$), and had no significant difference after 28 d. The concentrations of NSE in routine therapy group were higher than that in control group within 28 d($P<0.01$). Hematoma volume and neurological deficit scores were significantly different between two groups in the first 14 d and 28 d($P<0.01$). After 3 months follow-up, the curative effects were significantly different between two groups($P<0.05$). CONCLUSION Early application of insulin can protect neurons, improve neurological deficit, reduce nerve cell damage and brain secondary damage in the treatment of intracerebral hemorrhage, promote neural functional recovery and improve the prognosis.