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2型糖尿病患者糖化血红蛋白水平控制及胰岛素使用对认知功能的影响(PDF)

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Title: Effect of controlling glycated hemoglobin A1c and applying of insulin on cognitive function in type 2 diabetes patients

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关键词: 2型糖尿病; 认知功能; 糖化血红蛋白A1c; 血糖; 胰岛素

Keywords: diabetes mellitus type 2; cognitive function; hemoglobin A1c; blood glucose; insulin

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摘要: 目的　通过“神经认知功能评估量表”的测评，探讨糖化血红蛋白水平（hemoglobin A1c，HbA1c）和胰岛素治疗对2型糖尿病患者认知功能的影响。　方法　分析2012年4-11月我科门诊及住院2型糖尿病患者102例，其中男性55例，女性47例，年龄（56.80±10.85）岁。根据糖化血红蛋白分为：糖化血红蛋白≤7%组（52例）及糖化血红蛋白>7%组（50例），行神经心理认知评估量表分析；根据是否采用胰岛素治疗分为使用胰岛素组（63例）与未使用胰岛素组（39例），行神经心理认知评估量表分析。　结果　①糖化血红蛋白>7%组微血管神经病变发生率高于糖化血红蛋白≤7%组（$P<0.05$）；②糖化血红蛋白≤7%组在蒙特利尔认知评估量表（Montreal Cognitive Assessment Scale，MoCa）评分结果中视空间（3.83±0.92）分，画钟表（2.62±0.49）分，定向（5.79±0.67）分；糖化血红蛋白>7%组在视空间（3.32±1.25）分，画钟表（2.34±0.82）分，定向（5.40±0.86）分，前者明显高于后者并具有统计学意义（$P<0.05$）；③在是否使用胰岛素组中，未使用胰岛素组在连线测试B中所花费时间为（250.33±73.16）s，使用胰岛素组在连线测试B中花费时间为（220.75±85.11）s，前者花费时间较后者明显延长并具有统计学意义（$P<0.05$）；④使用胰岛素组中使用人胰岛素与未使用胰岛素类似物两组认知评分结果不具有统计学意义（$P>0.05$）。　结论　糖化血红蛋白控制在7%以下能延缓2型糖尿病患者认知功能

下降；无论是人胰岛素还是胰岛素类似物的使用对2型糖尿病的认知功能具有保护作用。

Abstract: Objective To determine the effect of controlling glycosylated hemoglobin A1c (HbA1c) level and applying insulin on the cognitive function in the patients with type 2 diabetes based on the Montreal Cognitive Assessment Scale. Methods A total of 102 type 2 diabetes out- and in-patients in our department from April 2012 to November 2012 were recruited in this study. They were 55 males and 47 females, at a mean age of 56.80±10.85, with an educational level of 10.20±3.71 years and a diabetic duration of 7.88±6.99 years. According to the American Diabetes Association recommended in 2010 that controlling HbA1c under 7% in type 2 diabetes can reduce the capillaries and neurological complications, these patients were divided into HbA1c ≤7% group (*n*=52) and HbA1c >7% group (*n*=50). In order to further study the benefit of insulin on cognitive function in type 2 diabetes, the patients were also divided into insulin treatment group (*n*=63), and the untreatment group (*n*=39). Montreal Cognitive Assessment, Trail making test B, Hamilton Depression Scale, and Hamilton Anxiety Scale were used to evaluate the neuropsychological cognitive function in the patients. Results The HbA1c>7% group had a higher incidence of diabetic angiopathy and neuropathy than the HbA1c≤7% group (*P*<0.05). The HbA1c≤7% group had a score of 3.83±0.92 in view space, 2.62±0.49 in clock draw, and 5.79 ±0.67 in direction in Montreal Cognitive Assessment Scale, and the HbA1c≤7% group had a score of 3.32±1.25, 2.34±0.82, and 5.40±0.86 respectively for above parameters, with those of the former group significantly higher than those of the latter (*P*<0.05). The insulin untreatment group took (250.33±73.16)s in trail making test B, and the insulin treatment group only took (220.75±85.11)s, with the former spend significantly longer time than the latter (*P*<0.05). But there was no significant difference in the neural psychological cognitive assessment scales between the 2 groups (*P*>0.05). Conclusion Controlling HbA1c under 7% delays the damage of type 2 diabetes in cognitive function. The application of insulin, no matter of human insulin or insulin analog, has a protective effect in the cognitive function of type 2 diabetes.

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