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糖化血红蛋白、糖化血清蛋白与急性脑梗死预后的相关性*

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摘要 目的:分析急性脑梗死患者临床预后与糖化血红蛋白(HbA1c)水平及糖化血清蛋白(GSP)水平的相关性。**方法:**以 80 例健康体检者为对照组,以 80 例急性脑梗死患者为观察组,对比两组入组时 HbA1c 水平及 GSP 水平差异。并根据改良 RanKin 评分将观察组分为轻症组(50 例)及重症组(30 例),对比两组入组时 HbA1c 水平及 GSP 水平差异。并对观察组入组时 HbA1c 水平及 GSP 水平与治疗前后改良 RanKin 评分差值的相关性。**结果:**观察组 HbA1c 水平及 GSP 水平均明显高于对照组($P<0.05$),而重症组 HbA1c 水平及 GSP 水平同样明显高于轻症组($P<0.05$),同时观察组入组时 HbA1c 水平及 GSP 水平与治疗前后改良 RanKin 评分差值存在显著的负向直线相关性($P<0.05$)。**结论:**急性脑梗死患者入组时 HbA1c 水平及 GSP 水平与患者预后存在显著的相关性,可用于与评价患者的临床预后。

关键词:糖化血红蛋白;糖化血清蛋白;急性脑梗死;预后;相关性

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Effect of Glycosylated Hemoglobin and Glycosylated Serum Protein on the Prognosis of Acute Cerebral Infarction*

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ABSTRACT Objective: To investigate the relationship between the level of glycosylated hemoglobin (HbA1c) and glycosylated serum protein (GSP) and the clinical outcome of acute cerebral infarction (CI) in patients with acute cerebral infarction. **Methods:** 80 subjects undergoing physical examination are served as control group and 80 patients with acute cerebral infarction are served as observation group. The HbA1c and GSH level were measured on admission and differences between the two groups were analyzed. According to the modified RanKin score, the observation group was divided into mild group (50 cases) and severe group (30 cases), the HbA1c level and GSP level were compared between the two groups. And the correlation between the HbA1c level and GSP level and the modified RanKin score before and after treatment were examined. **Results:** The levels of HbA1c and GSP in the observation group were significantly higher than those in the control group ($P<0.05$). Meanwhile, the levels of HbA1c and GSP in the severe group were significantly higher than those in the mild group ($P<0.05$). The HbA1c level and GSP level in the observation group were significantly negatively correlated with the modified RanKin score before and after treatment ($P<0.05$). **Conclusions:** In patients with acute cerebral infarction, HbA1c level and GSP level on admission significantly correlates with the prognosis and can be used to predict and evaluate the clinical outcomes.

Key words: Glycosylated hemoglobin; Glycosylated serum protein; Acute cerebral infarction; Prognosis; Correlation

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前言

急性脑梗死属常见的脑卒中之一,临床具有着较高的发病率,随着我国生活及饮食习惯的变化,本病在我国的发病率呈逐年升高的趋势^[1-3]。急性脑梗死病发后不仅可导致患者出现神经功能障碍症状,同时也可导致患者出现多器官功能衰竭,在严重影响患者生活质量的同时,对患者的生命安全也可造成严重的影响^[4-5]。急性脑梗死(ACI)患者经常合并有血糖增高,糖化血红蛋白(HbA1C)的测定可明确其为应激性升高抑或原有糖

尿病所致^[6]。血糖化血清蛋白(GSP)是血浆蛋白质与葡萄糖分子经非酶糖基化过程中形成的醛酮缩合物,血糖化血清蛋白测定的本质是反映血浆中总的糖化血浆蛋白质,血浆中占 70% 左右的白蛋白其半衰期为 19 d,因此,测定血糖化血清蛋白能反映糖尿患者 2~3 周内的血糖水平,而不受临时血糖波动的干扰^[7]。早期准确的病情评估对于改善本病的临床预后有着极为重要的作用,因此本研究将 HbA1c 水平及 GSP 水平作为观察指标,以期可更为准确的评估患者的临床病情。

1 资料与方法

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1.1 一般资料

将 2014 年 6 月至 2015 年 5 月作为观察时间段,以此时间段内于我院行健康体检的 80 例健康体检者为对照组,以此时间段内于我院就诊的 80 例急性脑梗死患者作为观察组,所有入选者均需符合本研究入选及排除标准。对照组,男 46 例,女 34 例;年龄 50-72 岁,平均(61.18±10.22)岁;合并糖尿病患者 36 例。观察组,男 45 例,女 35 例;年龄 51-72 岁,平均(61.33±10.18)岁;合并糖尿病患者 38 例。两组间性别、年龄及合并糖尿病患者数资料经统计学分析,未见统计学差异,具有可比性(P>0.05)。

入选标准:1、观察组患者均需存在明确的神经功能缺失症状,并经影像学检查明确诊断为急性脑梗死。2、由本人或直系亲属签署知情同意书。

排除标准:1、除外存在脑梗塞病史者。2、除外存在非脑梗死所致肢体功能障碍者。3、除外存在严重心、肝及肾功能障碍者。4、除外存在急性感染者。5、除糖尿病外存在其他内分泌疾病者。6、排除影像学检查提示存在脑出血者。7、排除近年有活动性消化溃疡、胃肠出血和有出血倾向者。

1.2 治疗方法

观察组患者入组后均给予吸氧及生命体征监护,同时给予阿司匹林 100 mg/ 日一次口服,辛伐他汀 20 mg/ 日一次睡前口服,奥扎格雷 80 mg+0.9 %氯化钠注射液 250 mL 日一次静点,舒血宁 20 mL+0.9 %氯化钠注射液 250 mL 日一次静点,小牛血清去蛋白提取物 0.8+0.9 %氯化钠注射液 250 mL 日一次静点治疗。同时根据患者的血压及血糖情况给予适当的降压及降糖治疗。所有患者的治疗时间均为 14 d。

1.3 观察方法

所有观察者入组后均立即抽取肘静脉血进行 HbA1c 水平及 GSP 水平检测,HbA1c 水平及 GSP 水平检查均应用比色法测定。对比对照组与观察组两组间 HbA1c 水平及 GSP 水平差异。同时根据改良 RanKin 评分将观察组患者分为两组,以改良 RanKin 评分≤ 3 分者为轻症组,患者 50 例;以 RanKin 评分>3 分者为重症组,患者 30 例。改良 RanKin 评分标准:0 分为完全无症状;1 分为尽管存在症状,但无功能障碍,对日常工作及生活无影响;2 分为轻度残疾,但不需照料可完成日常事务;3 分为中度残疾,能独立行走,但需要部分帮助;4 分为中重度残疾,日常生活需要帮助;5 分为重度卧床,完全依赖他人帮助。对比轻症组与重症组两组间 HbA1c 水平及 GSP 水平差异。此外,分别对观察组患者在入组时及接受治疗 2 周后进行改良 RanKin 评分,计算两组治疗前后改良 RanKin 评分差值,分析观察组入组时 HbA1c 水平及 GSP 水平与治疗前后改良 RanKin 评分差值的相关性。

1.4 统计方法

统计学分析应用 SPSS 19.0 统计学软件,以均数±标准差对计量资料进行统计学描述,以百分率对计数资料进行统计学描述,同时以 t 检验及卡方检验对计量资料及计数资料进行统计学分析,所得结果中以 P<0.05 为具统计学差异。

2 结果

2.1 对照组与观察组 HbA1c 水平及 GSP 水平差异分析

观察组 HbA1c 水平及 GSP 水平均明显高于对照组(P<0.05)。

表 1 观察组与对照组患者 HbA1c 水平及 GSP 水平比较

Table 1 Comparison of the serum levels of HbA1c and GSP between the observation group and control group

Groups	HbA1c(%)	GSP(μmol/L)
Control group(n=80)	6.67±1.55	203.33±53.22
Observation group(n=80)	8.33±1.15*	285.16±52.16*
t	-7.692	-9.821
P	0.000	0.000

注:两组间比较,*P<0.05,存在统计学差异。

Note: There was significant difference between the two groups, *P<0.05.

2.2 轻症组与重症组 HbA1c 水平及 GSP 水平差异分析

重症组 HbA1c 水平及 GSP 水平同样明显高于轻症组(P<0.05)。

表 2 轻症组与重症组患者 HbA1c 水平及 GSP 水平比较

Table 2 The difference between HbA1c and GSP in mild group and severe group

Groups	HbA1c(%)	GSP(μmol/L)
Mild group(n=50)	7.51±1.05	261.33±51.34
Severe group(n=30)	8.88±1.13*	295.07±52.18*
t	-5.490	-2.828
P	0.000	0.003

注:两组间比较,*P<0.05,存在统计学差异。

Note: There was significant difference between the two groups, *P<0.05.

2.3 HbA1c 水平及 GSP 水平与改良 RanKin 评分差值相关性分析

观察组入组时 HbA1c 水平及 GSP 水平与治疗前后改良 RanKin 评分差值存在显著的负向直线相关性(P<0.05)。

表 3 HbA1c 水平及 GSP 水平与改良 RanKin 评分差值相关性分析

Table 3 Correlation analysis between HbA1c, GSP and Modified RanKin score difference

Observation indexes	Content	r	P
HbA1c(%)	8.33±1.15	-0.643	0.000*
Modified RanKin score difference (score)	2.12±1.11		
GSP(μmol/L)	285.16±52.16	-0.733	0.000*
Modified RanKin score difference (score)	2.12±1.11		

*注:P<0.05,存在统计学差异。

Note: There was significant difference, *P<0.05.

3 讨论

颅内血管的急性闭塞为急性脑梗死病发的直接原因,颅内血管的急性闭塞可导致脑组织出现急性的缺血性坏死,从而使

脑组织出现不可逆性损伤,最终使患者出现多种神经功能缺失症状^[8,9]。虽然近年来随着医学技术的发展,多种诊疗技术均可应用于急性脑梗死的临床治疗中,已可有效的缓解患者的急性脑缺血,改善患者颅内的缺血缺氧症状,对于改善患者的预后有着十分重要的作用^[10]。但早期诊断及对预后准确的评估,对于合适治疗方案的选择仍有着极为重要的作用。目前,虽然CT检查及核磁共振检查对于早期诊断急性脑梗死有着极为重要的作用,但其在评估患者的预后过程中却存在一定的局限性,因此为可准确有效的评价急性脑梗死患者的临床预后,本研究将HbA1c水平及GSP水平作为观察指标。

本研究所观察的HbA1c水平及GSP水平两指标为观察血糖水平的重要指标,目前已较为广泛的应用于糖尿病及疑似糖尿病患者的血糖检测中^[11,12]。而近年来大量临床研究显示,HbA1c水平及GSP水平与急性脑梗死有着密切的关系^[13-15]。目前临床研究显示,HbA1c水平及GSP水平的升高,不仅可使得患者血液粘度升高,同时也可使血管内皮活性显著的升高,激活肾素-血管紧张素系统,使血管收缩,促进急性脑梗死的发生^[16-18]。此外,当HbA1c水平及GSP水平升高后,也可刺激淋巴细胞及单核细胞加速吞噬低密度脂蛋白胆固醇,促进动脉粥样硬化的发生及发展,并可降低红细胞的携氧能力,对于加重急性脑梗死的病情也有着极为重要的作用^[19,20]。因此本研究选取HbA1c水平及GSP水平作为观察指标。

本研究首先对健康体检者及急性脑梗死患者间HbA1c水平及GSP水平差异进行分析,结果显示,急性脑梗死患者其HbA1c水平及GSP水平有着显著的升高。同时,本研究进一步对急性脑梗死患者HbA1c水平及GSP水平对患者病情评估的应用价值进行分析,结果显示,重症组HbA1c水平及GSP水平同样明显高于轻症组,且观察组入组时HbA1c水平及GSP水平与治疗前后改良RanKin评分差值存在显著的负向直线相关性。可见,急性脑梗死患者入组时HbA1c水平及GSP水平与患者的预后有着显著的相关性。

综上所述:急性脑梗死患者入组时HbA1c水平及GSP水平与患者预后存在显著的相关性,可用于与评价患者的临床预后。因此治疗急性脑梗死时,可将HbA1c及GSP检查作为常规检查。

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