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银杏叶联合瑞舒伐他汀对糖尿病合并脑梗死患者血清 TNF- α , hs-CRP 及血脂水平的影响

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摘要 目的:探讨银杏叶联合瑞舒伐他汀对糖尿病合并脑梗死的临床疗效。**方法:**选取 2012 年 5 月-2015 年 5 月我院收治的糖尿病合并脑梗死患者 98 例,根据治疗方法不同分为对照组和研究组,每组 49 例。对照组采用瑞舒伐他汀钙片治疗,研究组在对照组基础上加用银杏叶提取物治疗。观察并比较两组患者治疗前后血清 TNF- α , hs-CRP 及血脂水平的变化情况以及临床疗效。**结果:**与治疗前比较,两组患者治疗后血清 TNF- α 水平均降低,且研究组低于对照组,差异具有统计学意义($P<0.05$);与治疗前比较,两组患者治疗后血清 hs-CRP 水平均降低,且研究组低于对照组,差异具有统计学意义($P<0.05$);治疗后两组患者 TC, LDL-C 及 TG 均低于治疗前,且研究组低于对照组,差异具有统计学意义($P<0.05$);治疗后两组患者 HDL-C 显著高于治疗前,且研究组高于对照组,差异具有统计学意义($P<0.05$)。与治疗前比较,两组患者治疗后 NIHSS 评分均降低,且研究组低于对照组,差异具有统计学意义($P<0.05$)。**结论:**银杏叶提取物联合瑞舒伐他汀治疗脑梗死合并糖尿病具有显著的临床疗效,能够降低患者血清炎症因子水平,改善患者高血脂状态,值得临床推广应用。

关键词:脑梗死;糖尿病;TNF- α ;hs-CRP

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Effects of Ginkgobiloba and Rosuvastatin on Serum Levels of TNF- α , hs-CRP and Blood Lipid of Patients with Diabetes and Cerebral Infarction

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ABSTRACT Objective: To investigate the clinical effect of ginkgobiloba combined with rosuvastatin on the treatment of diabetes and cerebral infarction. **Methods:** 98 cases with diabetes and cerebral infarction who were treated in our hospital from May 2012 to May 2015 were selected and according to the different treatment methods, the patients were divided into the control group and the study group, with 49 cases in each group. The patients in the control group were treated with rosuvastatin calcium tablets, while the patients in the study group were treated with ginkgobiloba on the basis of the control group. Then the serum levels of TNF- α , hs-CRP and blood lipid and the clinical efficacy in the two groups were observed and compared before and after the treatment. **Results:** Compared with before treatment, the serum levels of TNF- α in the two groups decreased after the treatment, and the study group was lower than that of the control group, and the differences were statistically significant ($P<0.05$); Compared with before treatment, the serum levels of hs-CRP decreased in the two groups after the treatment, and the study group was lower than that of the control group, and the differences were statistically significant ($P<0.05$); Compared with before treatment, the levels of TC, LDL-C and TG decreased after the treatment, and the study group was lower than that of the control group, and the differences were statistically significant ($P<0.05$); Compared with before treatment, the levels of HDL-C increased after the treatment, and the study group was higher than that of the control group, and the differences were statistically significant ($P<0.05$). Compared with before treatment, the NIHSS scores of the two groups decreased after the treatment, and the study group was lower than that of the control group, and the differences were statistically significant ($P<0.05$). **Conclusions:** Ginkgobiloba combined with rosuvastatin has significant clinical efficacy on the treatment of cerebral infarction with diabetes, which can reduce the levels of serum inflammatory factors in patients and decrease the high levels of blood lipids, and it is worthy of clinical application.

Key words: Cerebral infarction; Diabetes; TNF- α ; hs-CRP

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前言

脑梗死(cerebral infarction)是由多种因素引起的脑动脉在短期内出现狭窄、闭塞,引起脑组织缺血、缺氧性坏死而导致的脑组织损伤^[1]。糖尿病(Diabetes)是一组由遗传和环境等多种病因引起以慢性高血糖为特征的代谢性疾病群^[2]。糖尿病患者多存在体内血脂水平异常现象,而高血糖和代谢紊乱可导致患者组织器官及神经功能损害和衰竭,引起水电解质紊乱,增加了脑梗死的致残率和死亡率,严重影响患者预后^[3]。有研究显示,脑梗死合并糖尿病患者的颈动脉会出现不同程度的动脉粥样硬化,可加速脑梗死病情,增加治疗难度^[4]。因此,选择一种合适的治疗方法对于改善脑梗死合并糖尿病患者的病情具有重要意义。近年来研究表明,银杏叶联合瑞舒伐他汀治疗脑梗死合并糖尿病的临床效果显著,能够有效控制患者病情进展^[5]。因此,本研究通过观察患者血清 TNF- α 、hs-CRP 及血脂水平的变化情况,探讨银杏叶联合瑞舒伐他汀治疗脑梗死合并糖尿病的临床疗效及作用机制,现将相关结果报告如下:

1 资料与方法

1.1 临床资料

收集 2012 年 5 月 -2015 年 5 月在我院确诊并住院治疗的 98 例糖尿病合并脑梗死患者,随机数字表法分为对照组和研究组,每组 49 例。对照组包括男 21 例、女 28 例;平均年龄(62.6 ± 3.4)岁,平均病程(11.1 ± 2.7)岁;研究组包括男 29 例、女 20 例;平均年龄(61.7 ± 3.5)年,平均病程(11.3 ± 2.1)年。两组患者的一般资料具有可比性($P > 0.05$)。入选患者均符合脑血管学术会议关于脑梗死的临床诊断标准,均经颅脑 CT 或 MRI 检查确诊;本次治疗前均未接受溶栓、抗凝治疗;患者或家属签署书面知情同意书。排除既往合并消化性溃疡、上消化道出血及血液系统疾病者;排除有严重精神疾病者;排除脑肿瘤者。

1.2 方法

对照组采用瑞舒伐他汀钙片(规格:10 mg/片,阿斯利康制药有限公司,生产批号:129486)口服治疗,1 片/次,1 次/d。研究组在对照组基础上采用银杏叶提取物(规格:每片含 40 mg 银杏叶提取物,德国威玛舒培博士药厂,生产批号:7920715)口服治疗,1 片/次,3 次/d。两组均治疗 6 个月。

1.3 观察指标及检测方法

1.3.1 血清 TNF- α 水平检测 于治疗前后抽取患者空腹静脉血 5 mL,3000 r/min 离心 5 min,分离血清。采用酶联免疫吸附法(ELISA)检测患者血清 TNF- α 水平。

1.3.2 血清 hs-CRP 水平检测 于治疗前后空腹抽取患者静脉血 5 mL,以 3000 rpm 离心 15 min,分离血清。采用酶联免疫吸附法(ELISA)检测患者血清 hs-CRP 水平。

1.3.3 血脂相关指标检测 分别于治疗前后空腹抽取患者静脉血 5 mL,室温下 3000 r/min 离心,分离血清。采用全自动生化分析仪检测患者总胆固醇(TC)、甘油三酯(TG)、低密度脂蛋白胆固醇(LDL-C)和高密度脂蛋白胆固醇(HDL-C)水平。

1.4 疗效评价

根据美国卫生研究院神经功能缺损程度评分(NIHSS)量表评估患者治疗前后的神经功能,参照上肢运动、下肢运动、感觉、面瘫、视野、凝视、意识水平等方面评估,神经功能损伤程度与分数呈正相关。

1.5 统计学分析

采用 SPSS 18.0 软件进行统计学处理,计量资料用($\bar{x} \pm s$),t 检验,计数资料用[n(%)]表示, χ^2 检验, $P < 0.05$ 认为差异有统计学意义。

2 结果

2.1 两组患者治疗前后血清 TNF- α 水平比较

与治疗前比较,两组患者治疗后血清 TNF- α 水平均降低($P < 0.05$);与对照组比较,研究组患者治疗后血清 TNF- α 水平较低($P < 0.05$)。见表 1。

表 1 两组患者治疗前后血清 TNF- α 水平比较

Table 1 Comparison of serum levels of TNF- α between the two groups before and after the treatment

Indicators	Time	Study group (n=49)	Control group (n=49)
TNF- α (ng/L)	Before treatment	10.22 $\pm$ 3.19	10.96 $\pm$ 3.85
	After treatment	6.98 $\pm$ 1.55* [#]	7.12 $\pm$ 3.85*

Note: compared with before treatment, * $P < 0.05$; compared with control group after treatment, [#] $P < 0.05$.

2.2 两组患者治疗前后血清 hs-CRP 水平比较

与治疗前比较,两组患者治疗后血清 hs-CRP 水平均降低

($P < 0.05$);与对照组比较,研究组患者治疗后血清 hs-CRP 水平较低($P < 0.05$)。见表 2。

表 2 两组患者治疗前后血清 hs-CRP 水平比较

Table 2 Comparison of serum levels of hs-CRP between the two groups before and after the treatment

Indicators	Time	Study group (n=49)	Control group (n=49)
hs-CRP (mg/L)	Before treatment	16.55 $\pm$ 7.91	16.31 $\pm$ 7.15
	After treatment	1.66 $\pm$ 0.38* [#]	1.82 $\pm$ 0.98*

Note: compared with before treatment, * $P < 0.05$; compared with control group after treatment, [#] $P < 0.05$.

2.3 两组患者治疗前后血脂水平比较

与治疗前比较,两组患者治疗后 TC, LDL-C 及 TG 均降低

($P < 0.05$);与对照组比较,研究组患者治疗后 TC, LDL-C 及 TG 较低($P < 0.05$);与治疗前比较,两组患者治疗后 HDL-C 均

升高($P<0.05$);与对照组比较,研究组患者治疗后 HDL-C 更高($P<0.05$)。见表 3。

表 3 两组患者治疗前后血脂水平比较

Table 3 Comparison of levels of blood lipid between the two groups before and after the treatment

Groups	n	TC		LDL-C		TG		HDL-C	
		Before treatment	After treatment	Before treatment	After treatment	Before treatment	After treatment	Before treatment	After treatment
Study group	49	6.98± 1.12	3.81± 1.11* [#]	4.87± 0.58	2.14± 0.13* [#]	3.53± 0.22	2.05± 0.14* [#]	1.02± 0.21	1.85± 0.31* [#]
Control group	49	7.02± 1.23	4.14± 1.03*	4.67± 0.54	2.97± 0.24*	3.55± 0.21	2.67± 0.21*	1.05± 0.22	1.11± 0.23*

Note: compared with before treatment, * $P<0.05$; compared with control group after treatment, [#] $P<0.05$.

2.4 两组患者治疗前后 NIHSS 评分比较

两组患者治疗后 NIHSS 评分均降低;与对照组比较,研究组患者治疗后 NIHSS 评分较低($P<0.05$)。见表 4。

表 4 两组患者治疗前后 NIHSS 评分比较

Table 4 Comparison of NIHSS between the two groups before and after the treatment

Groups	NIHSS score	
	Before treatment	After treatment
Control group (n=49)	16.9± 2.2	12.9± 1.7*
Study group (n=49)	16.4± 2.3	6.8± 1.1* [#]

Note: compared with before treatment, * $P<0.05$; compared with control group after treatment, [#] $P<0.05$.

3 讨论

急性脑梗死是临床脑卒中的常见类型,是指患者脑内的动脉发生闭塞后,引起的区域性缺血或者区域梗死,因缺血及缺氧而导致周围部位神经元及胶质细胞的损伤,引起神经功能出现损害,该病起病急、病情进展快、致死率高,且发病率逐年升高,严重威胁患者的生命^[6]。有研究显示,脑梗死合并糖尿病患者易发生动脉粥样硬化,使动脉壁变厚并失去弹性,引起颈动脉内膜脂质沉积,以及平滑肌细胞和纤维基质增殖,形成动脉粥样硬化性斑块^[7]。

相关研究表明,TNF- α 、hs-CRP 等炎症因子水平的变化情况与动脉粥样硬化、高血压、脑梗死等脑血管疾病密切相关^[8]。肿瘤坏死因子- α (TNF- α)由活化的 T 细胞产生,是机体重要的促炎性因子,可介导炎症细胞的产生聚集、黏附,引发炎症,加速细胞凋亡、坏死,还可促进血管新生^[9]。有研究表明,TNF- α 在急性脑梗死患者血清中的水平显著升高^[10]。超敏 C 反应蛋白(hs-CRP)是重要的炎症反应标志物,在血清中的水平与炎症反应的严重程度呈正相关,能够直接反映出急性脑梗死患者脑部神经的损伤程度^[11]。相关研究表明,炎症因子 hs-CRP 参与早期冠状动脉粥样硬化的形成,是脑梗死病情发展过程中的重要标志物^[12]。本研究结果显示,与治疗前比较,两组患者治疗后血清 TNF- α 和 hs-CRP 水平均降低,且研究组低于对照组($P<0.05$)。结果说明,银杏叶提取物联合瑞舒伐他汀能够降低脑梗死合并糖尿病患者血清炎症因子水平,改善病情进展,具有较好的临床疗效。我们分析认为:瑞舒伐他汀具有降脂、改善机体血脂、

抗氧化、抑制细胞凋亡、改善内皮功能等多种药理作用^[13];而银杏叶提取物片由银杏叶黄酮提取物制成,可改善血流量及缺氧状况,具有较好的临床疗效^[14]。

相关研究表明,急性脑梗死的发生与动脉粥样硬化有着较为密切的联系,脂质水平的升高与动脉粥样硬化的形成有关^[15]。血管内皮发生损伤或低密度脂蛋白水平升高会引起机体的炎症反应,促进泡沫细胞形成,加快脂质沉积,加速动脉粥样硬化形成^[16];并且氧化低密度脂蛋白还能够损伤内皮细胞,加快血小板聚集,促进血栓形成,最终导致急性脑梗死^[17]。本研究结果显示,与治疗前比较,两组患者治疗后 TC、LDL-C 及 TG 均降低,而 HDL-C 均升高($P<0.05$);与对照组比较,研究组患者治疗后 TC、LDL-C 及 TG 较低,而 HDL-C 较高($P<0.05$)。结果说明,银杏叶提取物联合瑞舒伐他汀能够降低脑梗死合并糖尿病患者的血脂水平,改善患者高血脂状态。我们分析认为:瑞舒伐他汀能够抑制低密度脂蛋白合成,从而降低总胆固醇水平^[18];而银杏叶提取物可以改善患者脑血管缺血及缺氧状态,促进能量代谢,降低脂质过氧化水平,消除血管壁上的沉积成分,从而降低总胆固醇含量^[19]。此外,与治疗前比较,两组患者治疗后 NIHSS 评分均降低,且研究组低于对照组($P<0.05$),这与相关研究结果相似^[20],再次证实银杏叶提取物联合瑞舒伐他汀治疗脑梗死合并糖尿病的临床疗效显著。

综上所述,银杏叶提取物联合瑞舒伐他汀治疗脑梗死合并糖尿病具有显著的临床疗效,能够降低患者血清炎症因子水平,改善患者高血脂状态,值得临床推广应用。

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