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通心络胶囊对急性心梗 PCI 术后心肌微循环及心功能的影响 *

岳黎明¹ 李妍² 杨志彪¹ 宁小康¹ 畅辉^{1Δ}

(1 陕西中医药大学附属医院心内科 陕西 咸阳 712000; 2 空军军医大学附属西京医院心内科 陕西 西安 710000)

摘要 目的:探讨通心络胶囊对急性心梗经皮冠状动脉介入治疗(percutaneous coronary intervention, PCI)术后心肌微循环及心功能的影响。**方法:**选取 2014 年 1 月-2017 年 6 月我院收治的 ST 段抬高型急性心肌梗死需经 PCI 患者 200 例,按照治疗方法分为对照组、观察组,每组 100 例。对照组进行常规药物治疗,观察组联合通心络胶囊进行治疗。比较两组 PCI 后心肌梗死溶栓(thrombolysis in myocardial infarction, TIMI)血流分级与计帧值(corrected thrombolysis in myocardial frame count, CTFC)、ST 段回落情况、肌酸磷酸激酶同工酶(creatinine phosphokinase-isoenzyme-MB, CK-MB)峰值及峰值时间,治疗前后心功能相关指标的变化。**结果:**PCI 术后,两组冠脉 TIMI 血流分级比较差异不显著($P>0.05$),观察组 CTFC 显著低于对照组($P<0.05$),观察组 ST 段回落>50%比例显著高于对照组($P<0.05$),CK-MB 峰值及 CK-MB 峰值时间显著低于对照组($P<0.05$)。治疗后,两组左室射血分数(left ventricular ejection fraction, LVEF)、心脏指数(cardiac index, CI)均显著升高($P<0.05$)左心室舒张末期内径(left ventricular end-diastolic dimension, LVEDD)、左心室收缩末期内径(left ventricular end-systolic dimension, LVESD)均显著降低($P<0.05$),且观察组的以上指标的改善明显优于对照组($P<0.05$)。**结论:**通心络胶囊在急性心梗 PCI 后患者的应用中临床疗效良好,能够改善心肌微循环和心功能。

关键词:通心络胶囊;经皮冠状动脉介入治疗;心肌微循环;心功能

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Effect of Tongxinluo Capsule on the Myocardial Microcirculation and Cardiac Function of patients with Acute Myocardial Infarction after PCI*

YUE Li-ming¹, LI Yan², YANG Zhi-cai¹, NING Xiao-kang¹, CHANG Hui^{1Δ}

(1 Cardiology Department, Affiliated Hospital of Shaanxi University of Chinese Medicine, Xianyang, Shaanxi, 712000, China;

2 Cardiology Department, Xijing Hospital of Air Force Military Medical University, Xi'an, Shaanxi, 710000, China)

ABSTRACT Objective: To explore the effect of Tongxinluo capsule on the myocardial microcirculation and cardiac function of patients with acute myocardial infarction after PCI. **Methods:** 200 cases of patients with ST-segment elevation acute myocardial infarction required PCI in our hospital from January 2014 to June 2017 were selected and divided into the control group and the observation group according to the treatment methods, with 100 cases in each group. The control group was given conventional drug treatment, while the observation group was given Tongxinluo capsule on the basis of control group. The TIMI grade and CTFC, ST-segment depression, CK-MB peak and peak time, changes of cardiac function related indexes were compared between two groups before and after treatment. **Results:** There was no significant difference in the TIMI grading between two groups after PCI ($P>0.05$). The CTFC in observation group was significantly lower than that in the control group ($P<0.05$). The percentage of ST-segment depression >50% in observation group was significantly higher than that in the control group after PCI ($P<0.05$). The CK-MB peak and CK-MB peak time of observation group were significantly lower than those of the control group ($P<0.05$). The LVEF and CI in both groups were significantly increased after treatment ($P<0.05$). The LVEDD, LVESD in both groups were significantly declined after treatment ($P<0.05$). The improvement of observation group was obviously better than that of control group ($P<0.05$). **Conclusions:** Tongxinluo capsule had good clinical effect in the treatment of patients with acute myocardial infarction, it can improve the myocardial microcirculation and cardiac function.

Key words: Tongxinluo capsule; Percutaneous coronary intervention; Myocardial microcirculation; Cardiac function

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前言

急性冠状动脉综合征(acute coronary syndrome, ACS)是由

冠状动脉粥样硬化斑块侵袭或破裂引起的,形成以不完全或完全闭塞性血栓为基础的一种冠心病,是常见的心血管系统疾病^[1-3]。临床常以心电图 ST 段抬高与否作为分类标准,将 ACS

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作者简介:岳黎明(1975-),男,本科,副主任医师,研究方向:心血管方向, E-mail: yueliming_1975@papmedline.cn

Δ 通讯作者:畅辉(1973-),男,本科,副主任医师,研究方向:心内科, E-mail: changhui_1973@papmedline.cn

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分为急性 ST 段抬高性心肌梗死(acute st-segment elevation myocardial infarction,STEMI)、急性非 ST 段抬高性心肌梗死(non-acute st-segment elevation myocardial infarction,NSTEMI) 两种类型^[4,5]。ACS 常发生于老年人、男性及绝经后女性,多发生于高血压、高脂血症、糖尿病、有冠心病家族史患者,临床症状多胸闷、发作性胸痛等表现,常常引发心律失常、心力衰竭等,严重时甚至会造成猝死^[6-8]。

目前,临床上治疗 STMI 的首选方式是 PCI,PCI 通过心导管技术对闭塞或狭窄的冠状动脉管腔进行疏通,使心肌的血流灌注有效改善,这种技术可以有效疏通血管、恢复冠状动脉再

灌注,但术后存在心肌血流慢、微循环障碍等并发症,影响了患者的介入治疗效果与预后^[9-11]。本研究在 PCI 后对急性心梗患者应用通心络胶囊进行治疗,取得了较好效果,现报道如下。

1 材料与方法

1.1 一般资料

选取 2014 年 1 月-2017 年 6 月我院诊治的 200 例 ST 段抬高型急性心肌梗死需 PCI 患者,按照治疗方法分为对照组、观察组,每组 100 例。两组一般资料比较无显著差异($P>0.05$),见表 1。本研究已通过我院伦理委员会的审核。

表 1 两组一般资料比较 ($n, \bar{x} \pm s$)

Table 1 Comparison of the general information between two groups ($n, \bar{x} \pm s$)

Groups	Male/female	Age (years)	Infarct site		Complication
			Middle front wall/Inferior wall	Diabetes mellitus/Hypertension/Hyperlipidemia	
Control group($n=100$)	67/33	58.4 $\pm$ 5.5	58/42		11/57/31
Observation group($n=100$)	71/29	57.8 $\pm$ 6.3	61/39		14/55/33
<i>P</i>	0.541	0.474	0.666		0.521/0.776/0.762

1.2 纳入及排除标准

纳入标准:①符合 ST 段抬高型急性心肌梗死的诊断标准^[12];②符合 PCI 适应证;③经 PCI 后 TIMI 血流 $>II$ 级者;④患者或家属已签署知情同意书。

排除标准:①合并肝肾功能严重障碍者;②合并血液系统疾病者;③依从性差,患有精神疾病者;④治疗中断或资料不全者。

1.3 方法

对照组在 PCI 前口服阿司匹林 300 mg、氯吡格雷 300 mg;术中静脉输注肝素钠 1000 U/Kg;由同一组医师按照标准方法进行 PCI 术;术后 6 小时皮下注射低分子肝素钠 5000 IU,1 次/12 h,共 7 日,口服阿司匹林 100 mg/d、氯吡格雷 75 mg/d、阿托伐他汀钙 20 mg/d, β 受体阻滞剂、ACEI、硝酸酯类根据指南要求常规进行。疗程 12 w。

观察组在对照组的基础上使用通心络胶囊治疗,口服通心络胶囊(石家庄以岭药业股份有限公司,国药准字:Z19880015,规格:0.26 g $\times$ 30 粒),3 粒/次,3 次/d,疗程 12 w。

1.4 观察指标

(1)TIMI 血流分级与 CTFC:通过 TIMI 血流与 CTFC 来评价冠脉血流速度。在支架置入后立即对梗死相关冠脉(infarct-

tion related artery,IRA)进行 TIMI 血流分级;CTFC 计帧血流通常以分支的血流(前降支以末梢分叉)作为末梢界标,使用 GEMS Station 系统获取造影图像,计算标准 CTFC(单位:帧/s)=实测帧数(采集速度为 15 帧/s) $\times$ 30/15,前降支需除以 1.7 得到校正帧数。(2)心电图:治疗前后进行心电图检查,观察并记录 ST 段下降幅度。(3)血清 CK-MB:所有患者在术前及术后每隔 8 h 共 8 次抽取静脉血,使用罗氏生化仪测定血清 CK-MB 浓度,记录 CK-MB 峰值及峰值时间。(4)心功能:所有患者在治疗前及治疗后行超声心动图检查,记录治疗前后 LVEF、LVEDD、LVESD、CI。

1.5 统计学分析

用 SPSS 20.0 软件对数据进行分析,计量资料用 ($\bar{x} \pm s$)表示,组间比较进行 t 检验,计数资料以 $n(\%)$ 表示,组间比较进行 χ^2 检验。以 $P<0.05$ 表示差异有统计学意义。

2 结果

2.1 两组 PCI 后冠脉 TIMI 血流分级与 CFTC 的比较

PCI 术后,两组冠脉 TIMI 血流分级比较差异不显著 ($P>0.05$),观察组 CFTC 显著低于对照组($P<0.05$),见表 2。

表 2 两组 PCI 后冠脉 TIMI 血流分级与 CFTC 比较($\bar{x} \pm s$)

Table 2 Comparison of the TIMI flow grades and CFTC of coronary artery between two groups after PCI($\bar{x} \pm s$)

Groups	Cases	TIMI flow grades	CFTC(frame)
Control group	100	2.70.7	31.24.7
Observation group	100	2.80.6	25.44.3
<i>P</i>	-	0.279	0.000

2.2 两组 PCI 后 ST 段回落情况、CK-MB 峰值及 CK-MB 峰值时间比较

PCI 后,观察组 ST 段回落 $>50\%$ 例数显著高于对照组($P<0.05$),CK-MB 峰值及 CK-MB 峰值时间显著低于对照组 ($P<$

0.05),见表3。

2.3 两组治疗前后心功能指标的比较

治疗后,两组 LVEF、CI 均显著升高 ($P<0.05$),LVEDD、

LVESD 均显著降低($P<0.05$),且观察组的变化情况明显优于对照组($P<0.05$),见表4。

表3 两组 PCI 后 ST 段回落情况、CK-MB 峰值及 CK-MB 峰值时间比较($\bar{x}\pm s$)

Table 3 Comparison of the ST segment fall situation, CK-MB peak value, CK-MB peak time between two groups after PCI($\bar{x}\pm s$)

Groups	ST segment fall >50% (n, %)	CK-MB peak value (U/L)	CK-MB peak time (h)
Control group (n=100)	78(78.0)	253.639.7	12.30.9
Observation group (n=100)	91(91.0)	201.335.6	11.20.6
P	0.011	0.000	0.000

表4 两组治疗前后心功能指标的比较($\bar{x}\pm s$)

Table 4 Comparison of the heart function parameters between two groups before and after treatment($\bar{x}\pm s$)

Items	Control group (n=100)		Observation group (n=100)	
	Before treatment	After treatment	Before treatment	After treatment
LVEF (%)	34.26.5	37.67.3 ^a	34.35.7	42.57.4 ^{ab}
LVEDD (mm)	54.65.3	48.56.4 ^a	56.56.3	43.46.3 ^{ab}
LVESD (mm)	43.35.4	36.34.7 ^a	43.45.3	32.64.5 ^{ab}
CI (L·min ⁻¹ ·m ⁻²)	2.80.4	3.00.5 ^a	2.80.5	3.30.6 ^{ab}

Note: compared with same group before treatment, ^a $P<0.05$; compared with control group, ^b $P<0.05$.

3 讨论

STEMI 是心内科的一种高危疾病,随着生活节奏及饮食习惯等的不良变化增多,心肌梗死的发病率呈现年轻化、逐年增多的趋势,其中最多见的就是 STEMI^[13-15]。及时、有效的疏通血管、恢复冠状动脉再灌注及维持心功能对 STEMI 患者的治疗非常重要,目前临床上首选 PCI 进行治疗,PCI 在减少心肌梗死面积、促进梗死区域瘢痕修复等方面的效果较好^[16-18],但 PCI 后患者仍存在心肌微循环灌注不良,引发心肌代谢障碍并容易造成心室重构及新功能不全等情况^[19,20],故临床中会在 PCI 后进行药物强化治疗,这对于防止血管炎症、保护心肌细胞、恢复心功能及心肌的有效再灌注具有重要影响^[21-23]。

目前,临床上治疗心功能不全的药物以硝酸酯类、 β 受体阻滞剂、利尿剂等为主^[24,25],本研究中,对照组在 PCI 后进行常规药物治疗,观察组在常规药物的基础上联合通心络胶囊进行治疗。通心络胶囊是一种中成药,主要成分包括人参、水蛭、蜈蚣、冰片等益气药与通络药,具有益气活血、通络止痛的药效,主治冠心病心绞痛、气虚血瘀络阻型中风病等^[26,27]。本研究结果显示:两组治疗后 LVEF、CI 均显著升高,LVEDD、LVESD 均显著降低,而射血分数与心肌的收缩能力有关,心肌的收缩能力越强则射血分数会越大,心脏指数是反映心功能的常用指标^[28],以上结果说明两组的心功能均有恢复,且观察组临床效果更好。另外,两组冠脉 TIMI 血流分级结果差异不显著,但观察组 CFTC 显著低于对照组,且 PCI 后观察组 ST 段回落 >50% 比例显著高于对照组,CK-MB 峰值及 CK-MB 峰值时间显著低于对照组,以上结果说明两组患者的心肌微循环均有改善,PCI 及药物治疗对于 STEMI 患者的治疗有效,且观察组的效果更加显著。观察组的心肌微循环指标及心功能指标的变化优于对照组,这与通心络胶囊的作用密切相关。该药已广泛应用

于血管性疾病的预防与治疗中,具有抗炎、抗氧化、调节血脂的作用,可以改善心肌缺血、心功能。中医认为气虚血瘀是 PCI 后基本病机,气虚不能行血则血脉瘀阻,故益气活血是中医药预防和治疗冠脉微循环障碍的基本原则^[29]。通心络胶囊的主要成分是人参、水蛭、蜈蚣、冰片,大量研究证实,人参能增强心肌收缩能力,具有强心、抑制血栓形成的作用,水蛭对心血管系统的作用主要表现为增加心肌营养性血流量,蜈蚣能够调节内源性心肌保护物质、改善心肌缺血,冰片能够促进血管内皮细胞生成一氧化氮(nitric oxide, NO),这些可能是通心络胶囊发挥效果的重要机制^[30]。

综上所述,通心络胶囊在急性心梗 PCI 后患者的应用中临床疗效良好,能够改善心肌微循环和心功能。

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