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稳心颗粒对急性心肌梗死患者心率变异性及血清炎症因子水平的影响*

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摘要 目的:探讨稳心颗粒治疗急性心肌梗死性心律失常的疗效及对患者血清炎症因子水平的影响。**方法:**选择 2013 年 6 月-2016 年 6 月在我院接受治疗的 168 例急性心肌梗死患者为研究对象,随机分为研究组和对照组,每组 84 例。对照组患者给予常规西药治疗,研究组患者在对照组基础上给予稳心颗粒口服治疗。观察并比较两组患者治疗前后心率变异性、每搏输出量(SV)、左心室射血分数(LVEF)、左心室舒张末径(LVEDD)、血清 IL-6 水平以及临床疗效。**结果:**与治疗前比较,两组患者治疗后 SDNN, SDNN Index, SDANN, HF 及 LF 均升高,而 LF/HF 值均降低,差异具有统计学意义($P<0.05$);与对照组比较,研究组患者治疗后 SDNN, SDNN Index, SDANN, HF 及 LF 较高,而 LF/HF 值较低,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 LVEF 及 SV 均升高,而 LVEDD 均降低,差异具有统计学意义($P<0.05$);与对照组比较,研究组患者治疗后 LVEF 及 SV 较高,而 LVEDD 较低,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 IL-6 水平均降低,差异具有统计学意义($P<0.05$);与对照组比较,研究组患者治疗后血清 IL-6 水平较低,差异具有统计学意义($P<0.05$)。研究组临床总有效率(91.7%)显著高于对照组(82.1%),差异具有统计学意义($P<0.05$)。**结论:**稳心颗粒治疗急性心肌梗死的临床疗效显著,不仅能够改善患者心律失常症状,还能降低血清炎症因子水平,值得临床进一步推广及应用。

关键词:心律失常;稳心颗粒;急性心肌梗死;炎症因子;心率变异性

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Effects of Wenxin Granules on Heart Rate Variability and Serum Levels of Inflammatory Factors in Patients with Acute Myocardial Infarction*

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ABSTRACT Objective: To investigate the clinical efficacy of Wenxin granules on the treatment of acute myocardial infarction and its effects on the serum levels of inflammatory factors of patients. **Methods:** 168 patients with acute myocardial infarction who were treated in our hospital from June 2013 to June 2016 were selected and randomly divided into the study group and the control group, with 84 cases in each group. The patients in the control group were treated with conventional methods, while the patients in the study group were treated with Wenxin granules on the basis of the control group. Then the heart rate variability, stroke volume (SV), left ventricular ejection fraction (LVEF), left ventricular end diastolic diameter (LVEDD), and serum levels of IL-6 of the two groups were observed and compared before and after the treatment. **Results:** Compared with before treatment, the SDNN, SDNN index, SDANN, HF and LF of the two groups increased after the treatment, while the LF/HF decreased, and the differences were statistically significant ($P<0.05$); Compared with the control group after the treatment, the SDNN, SDNN index, SDANN, HF and LF of the study group were higher, while the LF/HF was lower, and the differences were statistically significant ($P<0.05$); Compared with before treatment, the LVEF and SV of the two groups increased after the treatment, while the LVEDV decreased, and the differences were statistically significant ($P<0.05$); Compared with the control group after the treatment, the LVEF and SV of the study group were higher, while the LVEDV was lower, and the differences were statistically significant ($P<0.05$); Compared with before treatment, the serum levels of IL-6 of the two groups decreased after the treatment, and the difference was statistically significant ($P<0.05$); Compared with the control group after the treatment, the serum levels of IL-6 was lower in the study group, and the difference was statistically significant ($P<0.05$). The total effective rate of the study group was 91.7%, which was significantly higher than 82.1% of the control group, and the difference was statistically significant ($P<0.05$). **Conclusions:** Wenxin granules has obvious clinical effect on the treatment of acute myocardial infarction, which can improve the symptoms of arrhythmia, as well as reduce the serum levels of inflammatory factors, and it is worthy of further clinical application.

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前言

急性心肌梗死(acute myocardial infarction, AMI)是指冠状动脉粥样硬化后不稳定的斑块破裂出血而引起的心肌缺血缺氧,临床主要表现为持续性的胸骨后疼痛、心律失常、心肌酶增高及心电图改变,严重者可直接导致心力衰竭或死亡,具有起病急、进展快、死亡高等特点^[1-3]。在我国传统医学中,急性心肌梗死属于胸痹、真心痛等范畴,主要病因为心脉痹阻,发病早期以心律失常为主要症状,因此急性心肌梗死的早期治疗应以行气活血、稳心止痛为主^[4,5]。近年来研究发现,炎症反应在急性心肌梗死的发生及发展的过程中发挥着重要作用,在冠脉损伤早期,免疫应答反应会发挥一定的保护作用,但若持续损伤则会导致应答反应失控,进一步刺激炎症反应,从而加重病情进展^[6,7]。因此,及时控制急性心肌梗死患者的血清炎症因子水平对于改善患者预后具有重要作用。有研究表明,稳心颗粒不仅能够改善心肌缺血,还可以抑制交感神经兴奋,增强迷走神经张力,从而改善患者心率变异性^[8]。因此,本研究通过观察稳心颗粒对急性心肌梗死患者心率变异性及血清炎症因子水平的影响,探讨其临床疗效,为急性心肌梗死的治疗提供参考,现将相关结果报告如下。

1 资料与方法

1.1 临床资料

选择 168 例急性心肌梗死患者为研究对象,均于 2013 年 6 月-2016 年 6 月在我院接受治疗。将患者随机分为研究组和对照组,每组 84 例。研究组包括男 53 例、女 31 例;平均年龄(58.7 ± 0.1)岁;对照组包括男 50 例、女 34 例;平均年龄(57.9 ± 0.5)岁。纳入标准:①符合世界卫生组织(WHO)制定的关于急性心肌梗死的诊断标准^[9];②均未接受溶栓或急诊经皮冠状动脉介入治疗(PCI);③均已经医院伦理委员会批准者,并签订知情同意书。排除标准:①合并脑血管疾病、肿瘤以及精神疾病;②对本研究方案药物过敏;③合并各种急、慢性感染性疾病;④哺乳期或妊娠期女性;⑤合并严重肺、肾、肝、心等功能异常者。两组患者的基础资料具有可比性($P > 0.05$)。

1.2 方法

对照组患者给予降脂、抗血小板凝聚、硝酸酯类及 β -受体阻滞剂等常规西药治疗,同时监测心电图、血压等;研究组患者在对照组基础上给予稳心颗粒(国药准字 Z10950026,生产厂家:山东步长制药股份有限公司)口服治疗,1 g/次,3 次/日。以 40 天为一疗程,两组患者均治疗一个疗程。

1.3 观察指标及检测方法

1.3.1 心率变异性检测 分别于治疗前后应用 DHD-6000 检测仪检测患者的心率变异性(HRV),主要包括:所有窦性 RR 间期的标准差(SDNN)、每 5 min 窦性 RR 间期标准差均值(SDNN Index)、每 5 min 窦性 RR 间期均值的标准差(SDANN);由迷走神经介导的高频带(HF, 0.15-0.40Hz,)、由交感神经、迷走神经共同介导的低频带(LF, 0.04-0.15Hz,)、交感-迷走神经张力平衡(LF/HF)。

1.3.2 心功能指标检测 所有患者均于治疗前后进行超声心动图检测,记录患者每搏输出量(SV)、左心室射血分数(LVEF)、左心室舒张末径(LVEDD)。

1.3.3 血清 IL-6 水平检测 所有患者于治疗前后抽取外周静脉血 3 mL,采用 ELISA 法检测患者血清 IL-6 水平。

1.4 临床疗效评价

显效:患者胸部不适、心悸等症状消失,心电图稳定;有效:患者胸部不适、心悸症状减轻,心电图基本稳定;无效:患者胸部不适、心悸等症状无明显改善或加重,甚至死亡,心电图无明显变化。总有效率 = 显效率 + 有效率。

1.5 统计学处理

应用 SPSS22.0 统计学软件处理,计数资料应用秩和检验,以 $\bar{x} \pm s$ 表示;t 检验计量资料,用百分比表示; $P < 0.05$ 认为差异具有统计学意义。

2 结果

2.1 两组患者治疗前后心率变异性检测结果比较

与治疗前比较,两组患者治疗后 SDNN, SDNN Index, SDANN, HF 及 LF 均升高,而 LF/HF 值均降低,差异具有统计学意义($P < 0.05$);与对照组比较,研究组患者治疗后 SDNN, SDNN Index, SDANN, HF 及 LF 较高,而 LF/HF 值较低,差异具有统计学意义($P < 0.05$)。见表 1。

表 1 两组患者治疗前后心率变异性($\bar{x} \pm s$)

Table 1 Changes of HRV parameters of patients between the two groups before and after the treatment ($\bar{x} \pm s$)

Groups	Time	SDNN (ms)	SDNN index (ms)	SDANN (ms)	HF (ms ²)	LF (ms ²)	LF/HF
Control group (n=84)	Before treatment	114.0 $\pm$ 21.2	44.2 $\pm$ 8.5	101.5 $\pm$ 12.3	40.1 $\pm$ 8.2	51.6 $\pm$ 8.3	1.2 $\pm$ 0.4
	After treatment	121.8 $\pm$ 20.4*	52.2 $\pm$ 8.8*	111.2 $\pm$ 11.5*	51.0 $\pm$ 8.9*	56.7 $\pm$ 8.9*	1.1 $\pm$ 0.8*
Study group (n=84)	Before treatment	112.1 $\pm$ 21.6	45.3 $\pm$ 8.3	102.1 $\pm$ 12.6	40.4 $\pm$ 8.3	52.5 $\pm$ 8.6	1.2 $\pm$ 0.2
	After treatment	129.2 $\pm$ 20.1*#	55.4 $\pm$ 8.2*#	117.6 $\pm$ 12.4*#	55.1 $\pm$ 8.1*#	59.8 $\pm$ 8.5*#	1.0 $\pm$ 0.2*#

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

2.2 两组患者治疗前后心功能指标比较

与治疗前比较, 两组患者治疗后 LVEF 及 SV 均升高, 而 LVEDD 均降低, 差异具有统计学意义($P<0.05$); 与对照组比

较, 研究组患者治疗后 LVEF 及 SV 较高, 而 LVEDD 较低, 差异具有统计学意义($P<0.05$)。见表 2。

表 2 两组患者治疗前后心功能比较($\bar{x}\pm s$)

Table 2 Comparison of heart functions of patients between the two groups before and after the treatment($\bar{x}\pm s$)

Groups	n	LVEF(%)		LVEDD(mL)		SV(v/mL)	
		Before treatment	After treatment	Before treatment	After treatment	Before treatment	After treatment
Study group	84	33.9 $\pm$ 2.6	46.8 $\pm$ 3.5* [#]	155.6 $\pm$ 16.2	132.1 $\pm$ 12.3* [#]	58.3 $\pm$ 4.3	73.3 $\pm$ 5.1* [#]
Control group	84	35.8 $\pm$ 2.4	41.7 $\pm$ 3.6*	151.3 $\pm$ 16.4	142.4 $\pm$ 12.9*	61.0 $\pm$ 4.7	68.9 $\pm$ 4.6*

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清 IL-6 水平比较

与治疗前比较, 两组患者治疗后血清 IL-6 水平均降低, 差

异具有统计学意义($P<0.05$); 与对照组比较, 研究组患者治疗后血清 IL-6 水平较低, 差异具有统计学意义($P<0.05$)。见表 3。

表 3 两组患者治疗前后血清 IL-6 水平比较(ng/mL , $\bar{x}\pm s$)

Table 3 Comparison of the serum levels of IL-6 between the two groups before and after the treatment (pg/mL , $\bar{x}\pm s$)

Groups	n	Before treatment	After treatment
Study group	84	33.2 $\pm$ 2.1	18.8 $\pm$ 1.6* [#]
Control group	84	35.5 $\pm$ 1.8	22.6 $\pm$ 1.9*

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

2.4 两组患者的临床疗效比较

研究组患者的临床总有效率为 91.7%, 对照组患者的临床

总有效率为 82.1%; 研究组患者的临床疗效显著优于对照组, 差异具有统计学意义($P<0.05$)。见表 4。

表 4 两组患者的临床疗效比较[n(%)]

Table 4 Comparison of the clinical curative effect between the two groups [n(%)]

Groups	n	Excellent	Effective	Invalid	Total effective rate
Control group	84	30(35.7%)	39(46.4%)	15(17.9%)	69(82.1%)
Study group	84	38(45.2%)	41(48.8%)	7(8.3%)	77(91.7%)*

Note: compared with control group, * $P<0.05$.

3 讨论

稳心颗粒主要由党参、黄精、三七、琥珀及甘松构成, 是一种心律失常纯中药制剂^[10]。其中, 党参通过扩张周围血管, 抑制肾上腺素的分泌而达到降压的作用; 黄精能够预防动脉粥样硬化的形成, 防止肝脏脂肪浸润, 并对肾上腺素所引起的血糖过高具有抑制作用; 三七可以增加冠状动脉血流量, 降低心肌耗氧量, 降低动脉压, 减轻心脏负荷; 琥珀能够促进血液循环, 消散瘀滞, 降低血压, 减轻心脏负荷; 甘松则有抗心律失常及中枢镇静的作用。中医理论认为, 凡由气阴两虚及淤血阻滞所引起的疾病均可以由稳心颗粒进行治疗^[11]。相关研究表明, 稳心颗粒适于由各种原因引起的窦性心动过速、早搏、房颤等心律失常症状, 而且临床疗效较好^[12]。本研究结果显示, 研究组临床总有效率显著优于对照组($P<0.05$)。结果说明, 稳心颗粒治疗急性心肌梗死性心律失常的临床疗效显著。

急性心肌梗死患者主要临床表现为心律失常, 心率变异性

作为评价心脏自主神经功能的无创性指标, 可评价神经体液因素与窦房结之间的联系, 进而反映循环系统的功能^[13]。SDNN 能够反映 24 小时 HRV 总和, SDNN 值越高, 发生猝死的危险性越低^[14]; 低频带数值受交感及迷走神经影响, 可以判断交感神经张力, 而高频带则可灵敏判断迷走神经张力^[15]; 而 LF/HF 是反映两者平衡的重要指标, 比值较大则以交感神经支配为主, 反之以迷走神经支配为主, 能够很好的描述心率变异性^[16]。本研究结果显示, 与治疗前比较, 两组患者治疗后 SDNN, SDNN Index, SDANN, HF 及 LF 均升高, 而 LF/HF 值均降低($P<0.05$); 与对照组比较, 研究组患者治疗后 SDNN, SDNN Index, SDANN, HF 及 LF 较高, 而 LF/HF 值较低($P<0.05$)。结果说明, 稳心颗粒能够稳定急性心肌梗死患者的心律变异性, 改善心律失常症状, 进而提高临床疗效。相关研究表明, 稳心颗粒能够改善急性心肌梗死患者的心功能, 降低心室重构的发生几率^[17]。本研究结果显示, 与治疗前比较, 两组患者治疗后 LVEF 及 SV 均升高, 而 LVEDD 均降低($P<0.05$); 与对照组比较, 研

究组患者治疗后 LVEF 及 SV 较高,而 LVEDD 较低($P<0.05$)。这与既往研究结果一致^[18],说明稳心颗粒能够提高急性心肌梗死患者的冠状动脉血流量,降低心肌耗氧,从而改善患者心功能。

IL-6 是炎症反应过程中重要的调节因子,能够分泌大量粘附分子,还可激活中性粒细胞,是反映急性心肌梗死炎症反应程度的重要介质。相关研究表明,IL-6 在心肌梗死患者机体炎症反应中发挥重要作用,不仅能够激活血小板释放颗粒,促进血栓形成,还可以刺激肝脏产生 CRP 等急性炎症蛋白,从而增加了动脉斑块的不稳定性^[9]。还有研究表明,IL-6 参与了中性粒细胞介导的心肌损伤过程,急性心肌梗死患者血清 IL-6 水平明显升高^[20]。本研究结果显示,与治疗前比较,两组患者治疗后血清 IL-6 水平均降低($P<0.05$);与对照组比较,研究组患者治疗后血清 IL-6 水平较低($P<0.05$)。结果说明,稳心颗粒能够降低急性心肌梗死患者血清炎症因子水平,抑制患者体内炎症反应,从而改善临床症状,提高临床疗效。

综上所述,稳心颗粒治疗急性心肌梗死性心律失常的临床疗效显著,不仅能够改善患者心律失常症状,提高冠状动脉血流量,从而改善心功能,还能降低患者血清炎症因子水平,控制病情进展,因此值得在临床进一步推广及应用。

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