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生脉注射液联合曲美他嗪治疗缺血性心肌病合并肾功能不全的临床疗效分析*

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摘要 目的:研究生脉注射液联合曲美他嗪治疗缺血性心肌病合并肾功能不全的临床疗效。**方法:**选取2015年3月至2017年3月我院收治的100例缺血性心肌病合并肾功能不全患者,按照随机数表法分为观察组(n=50)和对照组(n=50)。对照组采用曲美他嗪治疗,观察组采用生脉注射液联合曲美他嗪治疗。观察和比较两组的治疗疗效、治疗前后心功能指标(左心室射血分数(LVEF)、左室收缩末径(LVESD)、左室舒张末期内径(LVEDD))、肾功能指标(血肌酐(Scr),尿素氮(BUN))、心肌损伤标志物(血清胱抑素(CysC)、同型半胱氨酸(HCY)、脑钠肽(BNP))水平的变化。**结果:**治疗后,观察组总有效率显著高于对照组[92.30%(48/52) vs. 70.83%(34/48)](P<0.05),LVEDD、LVESD水平均显著低于对照组[(51.21± 8.54)mm vs. (56.63± 10.83)mm,(42.91± 6.30)mm vs. (45.86± 7.32)mm](P<0.05),LVEF水平均显著高于对照组[(46.02± 7.85)% vs. (41.20± 8.84)%](P<0.05),Scr、BUN水平均显著低于对照组[(164.30± 17.95)μmol/L vs. (211.75± 19.31)μmol/L;(8.12± 0.76)mmol/L vs. (11.74± 1.72)mmol/L](P<0.05)。血清CysC、HCY、NT-ProBNP水平均显著低于对照组[(0.90± 0.21)mg/L vs 1.52± 0.34)mg/L (12.34± 3.89)μmol/L vs. (20.86± 5.28)μmol/L,(298.47± 78.41)ng/L vs. (402.35± 92.76)ng/L](P<0.05)。**结论:**生脉注射液联合曲美他嗪治疗缺血性心肌病合并肾功能不全的的临床疗效显著优于单用曲美他嗪治疗,其可有效改善患者心、肾功能,减轻心肌细胞损伤。

关键词:生脉注射液;曲美他嗪;缺血性心肌病;肾功能不全

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Analysis of the Clinical Efficacy of Shengmai Injection plus Trimetazidine in the Treatment of Ischemic Cardiomyopathy Combined with Renal Insufficiency*

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ABSTRACT Objective: To study the clinical efficacy of shengmai injection plus trimetazidine in the treatment of ischemic cardiomyopathy combined with renal insufficiency. **Methods:** 100 cases of patients with ischemic cardiomyopathy and renal insufficiency who were treated from March 2015 to March 2017 in our hospital were selected as research objects. According to the random number table, those patients were divided into the observation group (n=50) and the control group (n=50). The control group was treated by trimetazidine, while the observation group treated by Shengmai injection combined with trimetazidine. Then the therapeutic efficacy, changes of left ventricular ejection fraction (LVEF), left ventricular end systolic diameter (LVESD), left ventricular end diastolic diameter (LVEDD), renal function index (Scr), urea nitrogen (BUN), myocardial injury markers (CysC), homocysteine (HCY), brain natriuretic peptide (BNP) levels were detected and compared between two groups before and after treatment. **Results:** After treatment, the total effective rate of observation group was significantly higher than that of the control group [92.30%(48/52) vs. 70.83%(34/48)](P<0.05). The levels of LVEDD and LVESD were significantly lower than those of the control group [(51.21± 8.54)mm vs. (56.63± 10.83)mm, (42.91± 6.30)mm vs. (45.86± 7.32)mm](P<0.05). The level of LVEF was significantly higher than that of control group [(46.02± 7.85)% vs. (41.20± 8.84)%](P<0.05). The Scr and BUN levels were significantly lower than those in the control group [(164.30± 17.95)μmol/L vs. (211.75± 19.31)μmol/L; (8.12± 0.76)mmol/L vs. (11.74± 1.72)mmol/L](P<0.05). The serum CysC, HCY and NT-ProBNP levels were significantly lower than those in the control group [(0.90± 0.21)mg/L vs. (1.52± 0.34)mg/L (12.34± 3.89)μmol/L vs. (20.86± 5.28)μmol/L,(298.47± 78.41)ng/L vs. (402.35± 92.76)ng/L](P<0.05). **Conclusion:** The clinical efficacy of Shengmai injection combined with trimetazidine is significantly better than that of trimetazidine alone in the treatment of ischemic cardiomyopathy with renal insufficiency. It can effectively improve the heart and kidney function of patients and reduce the damage of myocardial

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cells.

Key words: Shengmai injection; Trimetazidine; Ischemic cardiomyopathy; Renal function protection; Cystatin

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前言

缺血性心肌病是由冠状动脉粥样硬化引起长期缺血所致，晚期使心肌发生弥漫性纤维化[1]，临床主要表现为心绞痛、心律失常，甚至心力衰竭，影响患者的生命健康。临床研究表明早期诊断、治疗，防治冠心病危险因素，积极治疗各种形式的心肌缺血是改善缺血性心肌病患者预后的关键[2,3]。

曲美他嗪是一种哌嗪类衍生物，可维持稳定细胞环境，改善患者缺血缺氧状态和心肌代谢[4]。而生脉注射液是一种中成药物，具有益气养阴、复脉固脱的作用，其成分包含红参、麦冬、五味子，能够调节患者心肌细胞，补气强肝[5]。本研究旨在探讨生脉注射液联合曲美他嗪治疗缺血性心肌病合并肾功能不全的临床疗效及对患者心肾功能的影响。

1 资料与方法

1.1 一般资料

收集我院 2015 年 3 月至 2017 年 3 月收治的 100 例患者，均符合 WHO1979 年缺血性心肌病诊断标准。纳入标准[7]：配合研究；缺血性心肌病合并肾功能不全；左心室射血分数≤ 45。排除标准：肝功能严重异常者；患有精神疾病；近期采用其他药物治疗；患有其他重要脏器损伤导致继发性心衰者；原发性心脏病；对本次治疗药物过敏者；合并造血系统等严重并发症者；同时参与其他研究者。

按照随机数表法将所有喊着分为观察组(n=50)和对照组(n=50)，观察组男 30 例，女 20 例，年龄 51~65 岁，平均(61.42± 4.29) 岁；对照组男 28 例，女 22 例，年龄 50~65 岁，平均(62.03± 4.17)岁。两组患者的性别、年龄等一般资料比较差异均无统计学意义(P＞0.05)，具有可比性。

1.2 治疗方法

两组患者均采用吸氧、阿司匹林、阿托伐他汀、利尿、调脂等常规治疗。对照组在此基础上采用曲美他嗪(生产厂家：施维雅(天津)制药有限公司生产)治疗，每次 20 mg，每天 3 次，治疗疗程为 3 个月。观察组在对照组的基础上采用生脉注射液(生产厂家：吉林省集安益盛药业股份有限公司)治疗，每次 60 mL，加入 5%葡萄糖注射液中混合后进行静脉滴注，每天 1 次，治疗疗程为 2 周。

1.3 观察指标

观察两组治疗疗效、心功能指标(左心室射血分数(LVEF)、左室收缩末径(LVESD)、左室舒张末期内径(LVEDD))、肾功能指标(血肌酐(Scr)，尿素氮(BUN))、血清胱抑素(CysC)、同型半胱氨酸(HCY)，脑钠肽(BNP)水平。

1.3.1 **指标检测方法** 采用彩色多普勒超声检测 LVEF、LVESD、LVEDD；分别于治疗前后采集静脉血，离心分离血清，采用酶联免疫吸附法检测 CysC、HCY、Scr、BUN 水平，采用双抗夹心免疫法检测 BNP 水平。

1.3.2 **疗效判断标准** 临床症状完全消失，心功能分级改善 2 级以上为显效[8]。临床症状明显好转，心功能分级改善为 1 级为有效；临床症状、心功能分级无变化为无效。总有效率＝ 显效＋有效。

1.4 统计学分析

使用 SPSS18.0 统计软件统计数据，数据均符合正态分布，计量资料以($\bar{x}$± s)表示，组间比较采用 t 检验，计数资料以[(例)%]表示，组间比较采用 x^2 检验比较，以 P＜0.05 为差异有统计学意义。

2 结果

2.1 两组治疗疗效的对比

治疗后，观察组的总有效率为 92.3%，显著高于对照组(70.83%，P＜0.05)，见表 1。

表 1 两组治疗疗效的对比[例(%)]

Table 1 Comparison of therapeutic effects between two groups[n(%)]

Group	n	Excellence	Valid	Invalid	Total effective rate
Observation group	50	30(57.69)	18(34.61)	4(7.69)	48(92.30)*
Control group	50	19(39.58)	15(31.25)	14(29.16)	34(70.83)

Note: Compared with the control group, *P＜0.05.

2.2 两组治疗前后心功能指标的对比

两组治疗前 LVEDD、LVESD、LVEF 水平比较差异均无统计学意义(P＞0.05)；治疗后，两组 LVEDD、LVESD 均较治疗前显著降低、LVEF 水平较治疗前显著提高，且观察组 LVEDD、LVESD 明显低于对照组，LVEF 显著高于对照组 (P＜0.05)，见表 2。

2.3 两组治疗前后肾功能指标的对比

两组治疗前 Scr、BUN 水平比较差异均无统计学意义(P＞0.05)；治疗后，两组 Scr、BUN 水平均较治疗前显著降低，且观察组以上指标均显著低于对照组(P＜0.05)，见表 3。

2.4 两组治疗前后血清 CysC、HCY、NT-ProBNP 水平的对比

两组治疗前血清 CysC、HCY、NT-ProBNP 水平比较差异均无统计学意义 (P＞0.05)；治疗后，两组血清 CysC、HCY、NT-ProBNP 水平均较治疗前显著降低，且观察组以上指标均明显低于对照组(P＜0.05)，见表 4。

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表 2 两组治疗前后心功能指标的对比($\bar{x}\pm s$)

Table 2 Comparison of the cardiac function indexes between two groups before and after treatment($\bar{x}\pm s$)

Groups	n	LVEDD(mm)		LVESD(mm)		LVEF(%)	
		Before treatment	After treatment	Before treatment	After treatment	Before treatment	After treatment
Observation group	50	67.32± 12.38	51.21± 8.54#*	49.04± 8.32	42.91± 6.30#*	32.47± 6.03	46.02± 7.85#*
Control group	50	67.03± 12.19	56.63± 10.83#	50.02± 8.14	45.86± 7.32#	33.01± 6.21	41.20± 8.84#

Note: Compared with the control group, *P＜0.05; Compared with before treatment, #P＜0.05.

表 3 两组治疗前后肾功能指标的对比($\bar{x}\pm s$)

Table 3 Comparison of the renal function indexes between two groups before and after treatment($\bar{x}\pm s$)

Groups	n	Scr (μmol/L)		BUN(mmol/L)	
		Before treatment	After treatment	Before treatment	After treatment
Observation group	50	273.08± 20.74	164.30± 17.95#*	14.12± 3.27	8.12± 0.76#*
Control group	50	274.93± 10.23	211.75± 19.31#	14.07± 3.30	11.74± 1.72#

Note: Compared with the control group, *P＜0.05; Compared with before treatment, #P＜0.05.

表 4 两组治疗前后血清 CysC、HCY、NT-ProBNP 水平的对比($\bar{x}\pm s$)

Table 4 Comparison of the serum CysC, HCY and NT-ProBNP levels between two groups before and after treatment($\bar{x}\pm s$)

Groups	n	CysC(mg/L)		HCY(μmol/L)		NT-ProBNP(ng/L)	
		Before treatment	After treatment	Before treatment	After treatment	Before treatment	After treatment
Observation group	50	3.02± 0.52	0.90± 0.21#*	26.03± 8.03	12.34± 3.89#*	4624.38± 82.363	298.47± 78.41#*
Control group	50	3.06± 0.51	1.52± 0.34#	26.46± 8.12	20.86± 5.28#	4538.26± 88.252	402.35± 92.76#

Note: Compared with the control group, *P＜0.05; Compared with before treatment, #P＜0.05.

3 讨论

心肌缺血会导致心肌出现供氧不足,ATP 生成减少，心肌供能不足,降低心肌收缩力[9]。临床研究表明[10]缺血性心肌病属于不可逆疾病,若未及时得到有效的治疗,可导致心力衰竭、心律失常等严重的并发症,威胁患者的生命健康。而心力衰竭会降低患者肾血流量灌注,大量释放肾脏中的氧自由基和炎症因子,造成肾小管上皮纤维化,损伤患者肾功能,导致肾功能不全,严重的可发展为肾衰竭[11]。因此,缺血性心脏病的治疗旨在改善患者临床症状,保护心肾功能,缓解病情进展[12]。

研究表明曲美他嗪可稳定血流动力学,抑制游离脂肪酸氧化,减轻心肌损伤,改善心脏功能[13]。Zhang B[14]等研究显示曲美他嗪可减少肾小管周围炎性因子避免肾脏缺血再灌注。本研究结果显示两组患者采用曲美他嗪治疗后,临床症状、肾功能指标均较治疗前显著改善,提示曲美他嗪治疗缺血性心肌病可缩小心肌缺血区域面积,改善心肾功能。

中医认为[15],缺血性心肌病属于胸痹、水肿等范畴,主要是由患者气阴两虚导致,以脏气亏虚为本,水饮、瘀血为标,加上饮食、劳倦、外邪侵袭发作反复,临床以改善血瘀,益气复脉、养阴生津,扶正固本,增强元气为治疗之契机[16]。生脉注射液中的人参具有补气固脱,健脾益肺,宁心益智,养血生津的功效[17]。麦冬能够养阴生津,润肺清心;五味子具有益气生津、收敛固涩、补肾宁心的作用[18]。三种药物联合作用可扩张冠状动脉,改善微循环,促进心排血量和心肌收缩力,降低心肌耗氧量,从而全面改善缺血缺氧情况[19]。研究表明采用中西医结合给药方式治疗缺血性心肌病能够充分发挥两者协同用药的优势和作用[22,23]。本研究结果也显示采用联合生脉注射液治疗的患者临床症状、心、肾功能指标及治疗疗效均显著优于采用单独曲美他嗪治疗的患者。

研究表明[24,25]神经内分泌异常是导致心事重构发生的重要机制,多种分子可呈异常表达,加速病情。临床研究显示[26]缺血性心肌病患者的血清 CysC、HCY、NT-ProBNP 水平显著高于正常人。CysC 参与心肌重塑过程,可加速心肌细胞凋亡[27]。HCY 是心血管疾病的独立危险因子,水平异常升高可损伤血管内皮,促使机体处于凝血功能状态，从而诱发血管炎症反应[28]。NT-proBNP 是临床上诊断心力衰竭的预测性指标,其由心室细胞合成,当心脏压力增大时会大量释放入血[29]。本研究显示采用中西医结合给药方式治疗的患者血清 CysC、HCY、NT-ProBNP 水平更低，提示两种药物结合治疗可耕进一步改善患者心脏功能,抑制心肌细胞凋亡和心肌重构[30]。

综上所述,生脉注射液联合曲美他嗪治疗缺血性心肌病合并肾功能不全的的临床疗效显著优于单用曲美他嗪治疗,其可有效改善患者心、肾功能,减轻心肌细胞损伤。

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