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硝普钠治疗风湿性心脏病并发心衰患者的临床效果研究 *

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摘要 目的：探讨硝普钠治疗风湿性心脏病并发心衰患者的临床效果及安全性。**方法：**选取内蒙古医科大学第三附属医院2016-2019年收治的80例风湿性心脏病并发心衰患者，将其随机分为研究组和对照组，每组40例。对照组采取常规治疗，研究组在此基础上应用硝普钠治疗，对比两组治疗前后心脏血流动力学参数、舒张压、收缩压、心率、呼吸的变化、临床效果及不良反应的发生情况。**结果：**两组治疗后左心室收缩末期内径(Left ventricular end-systolic diameter，LVESD)、左房内径(left atrial diameter，LAD)、左心室舒张末期内径(left ventricular end-diastolic diameter，LVEDD)均较治疗前明显降低，左室射血分数值(left ventricular ejection fraction，LVEF)均明显高于治疗后($P<0.05$)，且研究组上述指标的改善程度均明显优于对照组($P<0.05$)。研究组治疗后舒张压、收缩压、心率、呼吸低于对照组($P<0.05$)；研究组的治疗有效率心脏高于对照组($P<0.05$)；两组不良反应的发生率比较差异无统计学意义($P>0.05$)。**结论：**硝普钠治疗风湿性心脏病并发心衰患者应可有效改善患者心功能，提高临床治疗效果，具安全性较好。

关键词：风湿性心脏病；心力衰竭；硝普钠；治疗效果

中图分类号：R541.2；R541.61 **文献标识码：**A **文章编号：**1673-6273(2020)10-1885-04

Clinical Effect of Sodium Nitroprusside on the Rheumatic Heart Disease Patients Complicated with Heart Failure*

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ABSTRACT Objective: To investigate the clinical effect and safety of sodium nitroprusside on the rheumatic heart disease patients complicated with heart failure. **Methods:** Eighty rheumatic heart disease patients complicated with heart failure admitted to the Third Affiliated Hospital of Inner Mongolia Medical University from 2016-2019 were selected as study subjects. They were randomly divided into the study group and the control group, with 40 cases in each group. The control group received routine treatment. The study group was treated with sodium nitroprusside. The hemodynamic parameters, diastolic blood pressure, systolic blood pressure, heart rate, respiratory changes, clinical effects and adverse reactions were compared before and after treatment. **Results:** After treatment, LVESD, LAD and LVEDD were significantly lower than those before treatment. The LVEF was significantly higher than that after treatment ($P<0.05$), and the improvement of the above indexes in the study group was significantly better than that of the control group ($P<0.05$). The study group was treated with diastolic blood pressure, systolic blood pressure, heart rate, and respiration lower than that of the control group ($P<0.05$). The effective rate of the study group was significantly higher than that of the control group ($P<0.05$). There was no significant difference in the incidence of adverse reactions between the two groups ($P>0.05$). **Conclusion:** Rheumatic heart disease patients complicated with heart failure have significant therapeutic effects with sodium nitroprusside, which can effectively improve the heart function of patients, and have better safety.

Key words: Rheumatic heart disease; Heart failure; Sodium nitroprusside; Therapeutic effect

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前言

风湿性心脏病是一种常见心脏病，主要临床表现为心悸、咳血、乏力、心脏功能衰竭、心律失常等，发展至晚期可发生各种严重并发症。心衰是风湿性心脏病的常见并发症，一旦发生心衰，病情恶化，直接威胁患者生命[1,2]。目前，临床上对该病主要采取手术治疗，但是对于手术指征不明、手术禁忌症及其他原因无法手术患者，只能采取药物保守治疗[2]。

硝普钠是一种临床上治疗风湿性心脏病心衰的常用药物，可抑制血管紧张素，扩张动脉，缓解心脏后负荷，降低心肌氧耗，进而改善临床病症[3,4]。相关研究表明[5,6]硝普钠联合常规治疗对于风湿性心脏病心衰患者的治疗效果显著。本研究对风湿

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性心脏病并发心衰患者在常规治疗基础上应用硝普钠治疗，以期以为临床治疗提供参考，现报道如下。

1 资料与方法

1.1 一般资料

选取 2016-2019 内蒙古医科大学第三附属医院所收治的 80 例风湿性心脏病并发心衰患者，随机分为研究组和对照组，每组 40 例。入选标准：确诊为风湿性心脏病心衰；自愿接受保守治疗，知晓本研究内容，签署知情同意书。排除标准：合并肝肾功能异常者；合并慢性肺疾病者；合并恶性肿瘤者；合并精神疾病者；对本研究药物过敏者。两组基本资料相比无统计学差异(P＞0.05)，见表 1，可对比。

表 1 两组的基本资料比较

Table 1 Comparison of the basic data between the two groups

Groups	n	Gender (Male/Female)	Age (years)	Disease duration (years)	Lesion (n)	
					Single valve disease	Combined valvular disease
Research group	40	21/19	60.3± 6.4	4.3± 2.5	24	16
Control group	40	22/18	61.0± 6.2	4.5± 2.2	25	15

1.2 治疗方法

对照组给予抗感染、镇静、利尿、控制血压等常规治疗，极度烦躁不安患者予以适量镇静剂。呋塞米，生产企业：上海禾丰制药有限公司，批准文号：国药准字 H31021063，规格：2 mL:20 mg，用法用量：口服，每次 20～40 mg(1～2 片)，每日 1 次。口服单硝酸异山梨酯，生产企业：鲁南贝特制药有限公司，批准文号：国药准字 H10940039，规格：20 mg/s，用法用量：口服，一次 0.5-1 片，一日 2-3 次。

研究组在对照组治疗基础上应用硝普钠治疗，生产企业：广东宏远集团药业有限公司 (国产)，批准文号：国药准字 H20064559，规格：50 mg(相当于无水物 43.96 mg)，用法用量：用前将本品 50 mg(1 支)溶解于 5 mL 5 %葡萄糖溶液中，再稀释于 250 mL～1000 mL 5 %葡萄糖液中，静脉滴注[7]。

两组在整个治疗过程中，需密切注意患者病情变化，以便及时调整用药方案。两组治疗时间均为 6 个月。

1.3 评价标准

1.3.1 **心功能** 评价两组治疗前后心功能，于患者治疗前后静息状态下，采取心脏彩超测量 LVESD、LAD、LVEDD，并计算 LVEF[8]。

1.3.2 **临床指标** 观察、对比两组治疗后舒张压、收缩压、心率、呼吸等临床指标。

1.3.3 **治疗效果** 判定两组的治疗效果[9,10]。显效：症状明显改善，心率达正常标准，心功能改善≥ 2 级以上；有效：症状有所改善，心率达正常标准，心功能改善 1 级；无效：症状无改善迹象，水肿未减少，心功能无改善，甚至加重[5]。

1.4 统计学方法

数据处理施行 SPSS19.0 软件，计量数据以($\bar{x}$± s)示，组间比较采用 t 检验；计数数据以%示，组间比较行 x^2 检验。以 P＜0.05 为差异有统计学意义。

2 结果

2.1 两组治疗前后心功能的变化比较

两组治疗前各项心功能指标(LVESD、LAD、LVEDD、LVEF)对比无统计学差异(P＞0.05)，治疗后，两组 LVESD、LAD、LVEDD 指标明显低于治疗前，LVEF 明显高于治疗前(P＜0.05)。且研究组治疗后 LVESD、LAD、LVEDD 指标明显低于对照组，LVEF 明显高于对照组(P＜0.05)。如表 2 所示。

表 2 两组心功能的变化比较

Table 2 Comparison of the improvement cardiac function between two groups

Groups	n	LVESD(mm)		LAD(mm)		LVEDD(mm)		LVEF(%)	
		Before treatment	After treatment	Before treatment	After treatment	Before treatment	After treatment	Before treatment	After treatment
Research group	40	51.3± 10.3	42.8± 9.4*#	49.5± 6.8	45.2± 7.3*#	61.8± 9.7	52.8± 10.3*#	36.7± 9.1	47.3± 8.3*#
Control group	40	51.5± 10.6	47.9± 8.5*	49.3± 7.1	48.3± 6.5*	60.9± 9.5	58.4± 10.7*	36.8± 9.2	41.8± 8.2*

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

2.2 两组治疗后临床指标的比较

研究组治疗后舒张压、收缩压、心率、呼吸均低于对照组，具有统计学差异(P＜0.05)。如表 3 所示。

2.3 两组的疗效对比

治疗后，研究组的治疗总有效率明显高于对照组(P＜0.05)，如表 4 所示。

2.4 两组治疗期间不良反应的发生情况比较

研究组在治疗期间出现头痛 1 例，低血压 2 例，不良反应发生率为 7.5 %；对照组出现头痛患 2 例，低血压 2 例，不良反应发生率为 10 %，与研究组比较差异无统计学意义(P＞0.05)。

3 讨论

风湿性心脏病是一种自身免疫性疾病，可引发一系列心悸、心慌气短、下肢水肿、乏力等症状[11]，无特效治疗手段，病情

进展后,很容易各类型并发症,尤其是心衰,严重威胁患者的生命安全[12-14]。风湿性心脏病心衰患者如果未给予及时、有效治疗,心功能不断降低,可诱发其他严重反应[15,16]。相关临床研究显示该病和神经内分泌激活有密切关系,致使心室重构,故临床治疗关键在于改善异常基因合成,改善心肌异常,逆转心室重构[17,18]。临床通过药物治疗,如醛固酮系统阻滞剂、β 受体阻滞剂、血管紧张素Ⅱ受体拮抗剂等,改善患者血流动力学,促使心室功能重建,进而取得相应效果[19,20]。

表 3 临床指标比较

Table 3 Comparison of clinical indicators

Groups	n	Diastolic blood pressure(mm Hg)	Systolic pressure (mm Hg)	Heart rate (times/min)	Breathing (times/min)
Research group	40	68.4± 6.2*	106.9± 7.3*	75.2± 6.1*	20.09± 4.27*
Control group	40	80.9± 6.4	118.7± 7.6	87.5± 6.5	28.65± 5.63

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

表 4 两组的疗效比较(例,%)

Table 4 Comparison of the clinical effects between two groups(n,%)

Groups	Cases	Markedly effective	Effective	Invalid	Total effective rate
Research group	40	24(60.0)	13(32.5)	3(7.5)	37(92.5)*
Control group	40	14(35.0)	15(37.5)	11(27.5)	29(72.5)

硝普钠是一种硝基氢氰酸盐,通过静脉给药后,可直接作用在动静脉血管床,通过代谢释放一氧化碳,发挥抗炎、抗氧化作用,缓解炎症因子的负作用[21,22]。硝普钠也具有较强的扩张血管作用,可减轻心脏前后负荷,舒张动脉末梢血管[23,24],降低静脉回流阻力,降低左室充盈压,提升心肌排血量,改善心肌收缩功能,降低心肌耗氧,降低肺动脉压,进而达到改善心功能、呼吸功能的作用[2526]。硝普钠是短效类、速效类血管扩张药,用药后,见效快,一般在静脉滴注后 2-5 min 见效,但是停药后 2-15 min 后,药效消失。硝普钠可降低左心室充盈,降低外周血管阻力,减少左心室阻抗,减少瓣膜关闭不全,减轻返流发生[27,28]。但硝普钠可降低心肌耗氧,增加每搏心输出量,发挥增强心肌收缩力,具有收缩血管的作用[29,30]。

本研究通过在采取常规治疗基础上应用硝普钠治疗风湿性心脏病心衰患者取得了良好的效果。研究组患者治疗后各项心功能指标、临床指标(舒张压、收缩压、心率、呼吸)控制情况均优于对照组,并且治疗效果明显好于对照组,提示硝普钠药物治疗的有效性,可促使心室功能重建,改善患者临床症状,防止心功能衰竭,改善心肌供血,促使患者心脏功能恢复,并且用药安全性较高。

总而言之,硝普钠治疗风湿性心脏病并发心衰患者应可有效改善患者心功能,提高临床治疗效果,具安全性较好。

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