

· 临床研究 ·

雷火灸联合心脏康复治疗对老年冠心病患者心肌灌注、运动耐力及生活质量的影响

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【摘要】目的 研究雷火灸联合心脏康复治疗对老年冠心病(CHD)患者心肌灌注、运动耐力及生活质量的影响。**方法** 将琼海市中医院2021年1月至2022年1月收治的86例老年CHD患者纳入研究对象, 电脑随机软件将其分为试验组及对照组, 每组患者43例, 其中对照组患者采用常规心脏康复治疗, 试验组在此基础上加用雷火灸。比较2组患者治疗后心肌灌注状况、运动耐力、治疗效果及生活质量。采用SPSS 19.0软件进行数据分析。根据数据类型, 组间比较分别采用 t 检验及 χ^2 检验。**结果** 干预后, 试验组和对照组心肌缺血壁段较治疗前均减少[(3.15±0.75)和(7.45±2.15)个, (5.69±1.16)和(7.51±2.17)个; 均 $P<0.001$]; 且试验组经心肌缺血壁段低于对照组, 差异有统计学意义($P<0.001$)。试验组峰值摄氧量(VO_{2peak})及无氧阈值(AT)水平均高于对照组及治疗前, 差异均有统计学意义[(25.36±4.16)和(21.16±3.79)、(17.63±2.83)ml/(min·kg), (16.98±3.69)和(14.07±2.83)、(11.47±2.66)ml/(min·kg); $P<0.05$], 对照组 VO_{2peak} 及AT水平均高于对照组及治疗前, 差异均有统计学意义[(21.16±3.79)和(17.71±3.15)ml/(min·kg), (14.07±2.83)和(11.53±2.74)ml/(min·kg); 均 $P<0.05$]。试验组患者治疗总有效率高于对照组, 差异有统计学意义[38(88.37%) 和 30(69.77%); $P<0.05$]。试验组和对照组西雅图心绞痛量表(SAQ)评分均高于干预前[(76.69±13.87)和(61.15±12.16)分, (66.16±14.05)和(61.43±11.47)分; 均 $P<0.05$]; 且试验组SAQ评分高于对照组, 差异有统计学意义($P<0.05$)。**结论** 心脏康复基础上加用雷火灸可有效提高CHD的治疗效果, 改善患者运动耐力及生活质量。

【关键词】 冠心病; 心血瘀阻型; 雷火灸; 心脏康复治疗; 心肌灌注

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Effects of thunder-fire moxibustion combined with cardiac rehabilitation therapy on myocardial perfusion, exercise tolerance and quality of life in elderly patients with coronary heart disease

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【Abstract】 Objective To determine the effects of thunder-fire moxibustion combined with cardiac rehabilitation therapy on myocardial perfusion, exercise tolerance and quality of life in elderly patients with coronary heart disease (CHD). **Methods** A total of 86 elderly patients with CHD admitted to Qionghai Hospital of Traditional Chinese Medicine from January 2021 to January 2022 were recruited as the research subjects, and randomly divided into study group and control group, with 43 cases in each group. The control group was given conventional cardiac rehabilitation therapy, while the study group was treated with thunder-fire moxibustion additionally. Myocardial perfusion status, exercise tolerance, therapeutic efficacy and quality of life were compared between two groups after treatment. SPSS statistics 19.0 was used for statistical analysis. Data comparison between two groups was performed using t test or χ^2 test depending on data type. **Results** After intervention, the number of involved ischemic myocardial segments was reduced in both study group and control group [(7.45±2.15) vs (3.15±0.75), (7.51±2.17) vs (5.69±1.16); both $P<0.001$], and the number in the study group was significantly less than that in the control group ($P<0.001$). The study group had obviously higher peak oxygen uptake [(25.36±4.16) vs (21.16±3.79) and (17.63±2.83) ml/(min·kg)] and anaerobic threshold [(16.98±3.69) vs (14.07±2.83) and (11.47±2.66) ml/(min·kg)], when compared with the control group after intervention and the baseline values before treatment ($P<0.05$). The control group had obviously higher peak oxygen uptake [(21.16±3.79) vs (17.71±3.15) ml/(min·kg)] and anaerobic threshold [(14.07±2.83) vs (11.53±2.74) ml/(min·kg)] when compared with the baseline values before treatment ($P<0.05$). The total efficiency rate was statistically higher in the study group than the control group [38 (88.37%) vs 30 (69.77%), $P<0.05$]. The score of Seattle Angina Questionnaire after intervention was increased in both groups [(76.69±13.87) vs (61.15±12.16) points, (66.16±14.05) vs (61.43±11.47) points; both $P<0.05$], and that of the study group was notably higher than that of the control group ($P<0.05$). **Conclusion** On the basis of cardiac

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rehabilitation therapy, thunder-fire moxibustion can effectively improve the therapeutic efficacy for CHD and improve the exercise tolerance and quality of life in the patients.

[Key words] coronary heart disease; cardiac blood stasis type; thunder-fire moxibustion; cardiac rehabilitation therapy; myocardial perfusion

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心脏康复(cardiac rehabilitation, CR)治疗是预防冠心病的二级手段,可纠正心血管危险因素,降低冠心病(coronary heart disease,CHD)死亡风险,但由于种种原因,患者CR治疗依从性普遍很低^[1,2]。寻找更为有效、方便的辅助手段改善CHD患者预后,是当前研究的重点。赵氏雷火灸将雷火神针灸的“实按灸”改为了“悬灸”,是一种集“针”“灸”“药”为一体的中医疗法,其在妇科、骨伤科、皮肤科等多学科疾病治疗中均取得良好的疗效,但在CHD中的报道并不多^[3,4]。本研究旨在探讨雷火灸联合CR治疗对老年CHD患者心肌灌注、运动耐力及生活质量的影响,报道如下。

1 对象与方法

1.1 研究对象

将琼海市中医院2021年1月至2022年1月收治的86例老年CHD患者纳为研究对象。采用电脑随机软件将86例老年CHD患者随机分为试验组及对照组,每组患者43例,2组患者一般资料比较,差异均无统计学意义(表1)。

冠心病西医诊断标准:参照国际心脏病学会及世界卫生组织临床命名标准化联合专题组报告《缺血性心脏病的命名及诊断标准》^[5]及2007年中华医学会心血管病学学会颁布的《慢性稳定性心绞痛诊断

与治疗指南》^[6]中相关标准。冠心病中医诊断标准:参照《中药新药临床研究指导原则》^[7]中关于胸痹的相关诊断标准;辨证分型为心血瘀阻型,主证为胸痛,次证有胸闷、心悸不宁、唇紫暗、舌质暗、瘀斑、脉细涩,符合主证及任意两项及以上次证即可确诊。

1.2 方法

对照组接受常规CR治疗,包括药物干预、运动干预及生活干预。试验组在此基础上联合应用雷火灸。雷火灸治疗操作及取穴参照《中国雷火灸疗法》^[8],雷火灸治疗操作均由同一位取得针灸师资格证的针灸师进行。施灸材料统一为赵氏雷火灸(重庆赵氏雷火灸传统医药研究所研制)。施灸穴位:郄门穴、阴郄穴、巨阙穴、膻中穴、膈腧穴。实施方法:患者取仰卧位,点燃雷火灸艾条,以旋转与雀啄的手法,在距离施穴处皮肤2~3cm,依次艾灸郄门穴、阴郄穴、巨阙穴、膻中穴,以皮肤微红为度,后患者改为仰卧位,艾灸膈腧穴。每次艾灸30min,1次/d,7d为一个疗程,共治疗2个疗程,每两个疗程之间间隔2d。

1.3 观察指标

2组均连续干预16d,16d后评估以下指标。(1)心肌灌注:所有患者均行发射单光子计算机断层扫描(emission computed tomography,ECT)检查(显像仪为德国西门子E.COM ECT显像仪),采用

表1 2组患者一般资料比较

Table 1 Comparison of general data between two groups (n=43)

Item	Control group	Study group	t/χ^2	P value
Male/female(n)	25/18	23/20	0.189	0.664
Age(years, $\bar{x}\pm s$)	70.45 $\pm$ 7.73	71.15 $\pm$ 8.19	0.408	0.685
CHD course(years, $\bar{x}\pm s$)	8.11 $\pm$ 2.09	7.69 $\pm$ 2.46		
NYHA cardiac function grading[n(%)]			0.853	0.396
Grade II	26(60.47)	23(53.49)		
Grade III	17(39.53)	20(46.51)		
Hyperlipidemia	5(11.63)	6(13.95)	0.104	0.747
Diabetes mellitus	9(20.93)	10(23.26)	0.068	0.795
Hypertension	14(32.56)	13(30.23)	0.054	0.816
CCS angina severity grading[n(%)]			0.010	0.993
Grade I	12(27.91)	13(30.23)		
Grade II	22(51.16)	20(46.51)		
Grade III	9(20.93)	10(23.26)		
Stenosis count shown by coronary angiography[n(%)]			0.301	0.860
1-vessel	9(20.93)	8(18.60)		
2-vessel	26(60.47)	25(58.14)		
3-vessel	8(18.60)	10(23.26)		

CHD: coronary heart disease; CCS: Canadian Cardiovascular Society; NYHA: American New York Heart Association.

心肌节段测量法将左心室分为 20 个心肌节段,比较 2 组患者干预前后心肌缺血壁段改善情况。(2)运动耐力:采用德国 JAEGER MasterScreen CPX 心肺运动测试训练系统测量患者运动耐力,包括峰值摄氧量(peak oxygen uptake, $VO_2\text{peak}$)及无氧阈值(anaerobic threshold, AT)。(3)生活质量:采用西雅图心绞痛量表(Seattle Angina Questionnaire, SAQ)^[9]评估患者生活质量。(4)治疗效果:根据《中医心病之心绞痛诊断与疗效标准》^[10]评估患者治疗效果。显效为经治疗后心绞痛症状基本消失;有效为经治疗后心绞痛症状较之前明显减轻或发作次数减少;无效为经治疗后心绞痛症状与之前无差异,发作次数未见明显改变;加重为经治疗后心绞痛症状较前加重,发作次数及持续时间均增加。治疗有效率 = $[(\text{显效例数} + \text{有效例数}) / \text{总例数}] \times 100.00\%$ 。

1.4 统计学处理

采用 SPSS 19.0 统计软件进行数据分析。符合正态分布的计量资料用均数 $\pm$ 标准差($\bar{x} \pm s$)表示,2 组间比较行独立样本 t 检验,干预前后组内行配对 t 检验。计数资料用例数(百分率)表示,采用 χ^2 检验。 $P < 0.05$ 为差异有统计学意义。

2 结果

2.1 2 组患者干预前后心肌灌注情况比较

干预前,2 组患者心肌灌注情况比较,差异无统计学意义。干预后,试验组和对照组心肌缺血壁段较治疗前均减少 $[(3.15 \pm 0.75)$ 和 (7.45 ± 2.15) 个, (5.69 ± 1.16) 和 (7.51 ± 2.17) 个;均 $P < 0.001$];且试验组经心肌缺血壁段低于对照组,差异有统计学意义($P < 0.001$)。

2.2 2 组患者干预前后运动耐力比较

干预前,2 组患者运动耐力比较,差异无统计学意义。干预后,试验组 $VO_2\text{peak}$ 及 AT 水平均高于对照组及治疗前,对照组 $VO_2\text{peak}$ 及 AT 水平均高于治疗前,差异均有统计学意义($P < 0.05$;表 2)。

表 2 2 组患者干预前后运动耐力比较

Table 2 Comparison of exercise tolerance before and after intervention between two groups

$[n = 43, \text{ml}/(\text{min} \cdot \text{kg}), \bar{x} \pm s]$

Group	$VO_2\text{peak}$		AT	
	Before	After	Before	After
	intervention	intervention	intervention	Cintervention
Study	17.63 $\pm$ 2.83	25.36 $\pm$ 4.16*	11.47 $\pm$ 2.66	16.98 $\pm$ 3.69*
Control	17.71 $\pm$ 3.15	21.16 $\pm$ 3.79*	11.53 $\pm$ 2.74	14.07 $\pm$ 2.83*
t	0.124	4.894	0.103	4.103
P value	0.902	<0.001	0.918	<0.001

$VO_2\text{peak}$: peak oxygen uptake; AT: anaerobic threshold. Compared with before intervention in the same group, * $P < 0.001$.

2.3 2 组患者干预前后 SAQ 评分比较

干预前,2 组患者 SAQ 评分比较,差异无统计学意义。干预后,试验组和对照组 SAQ 评分均高于干预前 $[(76.69 \pm 13.87)$ 和 (61.15 ± 12.16) 分, (66.16 ± 14.05) 和 (61.43 ± 11.47) 分;均 $P < 0.05$];且试验组 SAQ 评分高于对照组,差异有统计学意义($P < 0.05$)。

2.4 2 组患者干预后总有效率比较

干预后,试验组患者治疗总有效率高于对照组,差异有统计学意义($P < 0.05$;表 3)。

表 3 2 组患者干预后总有效率比较

Table 3 Comparison of efficiency rate after intervention

between two groups $[n = 43, n(\%)]$

Group	Markedly effective	Effective	Ineffective	Aggravated	Total efficiency rate
Study	20(46.51)	18(41.86)	5(11.63)	0(0.00)	38(88.37)*
Control	13(30.23)	17(39.53)	12(27.91)	1(2.33)	30(69.77)

Compared with control group, * $P < 0.05$.

3 讨论

循证医学表明,CR 治疗在纠正心血管危险因素、降低 CHD 病死率中疗效明显,但临床上,患者 CR 治疗的依从性很低,疾病获益有限^[11,12]。中医在治疗 CHD 中的疗效显著,本研究发现,在 CR 治疗的基础上联合雷火灸可进一步提高 CHD 治疗效果。

雷火灸以中医经络学说为基础,以黄芪、艾绒、麝香、乌梅等中药材制成药艾条,以“悬灸”的方式进行治疗,利用药物燃烧所产生的热量、红外线、药化因子及物理因子刺激对应穴位及经络,调节机体各项机能^[13]。本研究选择郄门穴、阴郄穴、巨阙穴、膻中穴、膈腧穴作为施灸穴位,其中郄门穴是手厥阴心包经的郄穴,阴郄穴为手少阴心经的郄学,巨阙穴、膻中穴是心与心包的募穴,膈腧是血会之穴,雷火灸刺激以上穴位可行气通络、止痛化瘀、调心化瘀、静心养神之效^[14]。

ECT 心肌灌注显像能准确有效地评估患者心肌灌注状况。本研究发现,联合雷火灸治疗后的试验组患者 ECT 检查中心肌缺血壁段减少,且明显低于对照组,提示试验组心肌灌注得到有效改善。这可能与雷火灸借助艾条燃烧时所释放的红外线辐射及热量,将药物能量渗透至机体表层,通过穴位及经络改善心肌灌注相关^[15]。此外,本研究发现,试验

组患者运动耐力及生活质量均得到更明显的改善。说明加用雷火灸治疗可更为有效地控制 CHD 病情,提高患者生活质量及运动能力。

综上,雷火灸联合 CR 治疗能有效提高 CHD 的治疗效果,改善患者心肌灌注、运动耐力及生活质量。但本研究所纳入的样本量有限,未设置雷火灸假干预组,且结果的记录判读都不是独立获得,可能会对所得结果产生一定的影响,为增强研究结论的可靠性,需针对以上不足进一步改善研究方案,开展更深入的研究。

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