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脉络舒通丸联合阿托伐他汀对冠心病 PCI 术患者血脂、炎症因子及术后再狭窄的影响 *

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摘要 目的:探讨脉络舒通丸联合阿托伐他汀对冠心病经皮冠状动脉介入(PCI)术患者血脂、炎症因子及术后再狭窄的影响。**方法:**选择 2018 年 5 月 ~2020 年 2 月期间我院接收的冠心病 PCI 术患者 93 例,分为 A、B 两组,A 组(46 例)给予阿托伐他汀治疗,B 组(47 例)给予脉络舒通丸联合阿托伐他汀治疗,比较两组患者临床疗效、心电图疗效、血脂、炎症因子及术后再狭窄发生率。**结果:**B 组治疗 2 个月后的临床总有效率为 93.62%(44/47),高于 A 组的 76.09%(35/46)(P<0.05)。B 组治疗 2 个月后的心电图总有效率为 89.36%(42/47),高于 A 组的 67.39%(31/46)(P<0.05)。治疗 2 个月后两组高密度脂蛋白胆固醇(HDL-C)升高,白介素 -6(IL-6)、胆固醇(TC)、C 反应蛋白(CRP)、肿瘤坏死因子 -α(TNF-α)、低密度脂蛋白胆固醇(LDL-C)、三酰甘油(TG)降低(P<0.05),治疗 2 个月后 B 组 TC、TG、LDL-C、IL-6、CRP、TNF-α 低于 A 组,HDL-C 高于 A 组 (P<0.05)。B 组术后再狭窄发生率为 6.38%(3/47),明显低于 A 组的 23.91%(11/46),差异有统计学意义(P<0.05)。**结论:**脉络舒通丸联合阿托伐他汀治疗冠心病 PCI 术患者,疗效满意,可有效改善心电图疗效、血脂、炎症因子水平,并降低术后再狭窄发生率。

关键词:血脂;经皮冠状动脉介入术;阿托伐他汀;冠心病;脉络舒通丸;炎症因子
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Effects of Mailuoshutong Pill Combined with Atorvastatin on Blood Lipid, Inflammatory Factors and Postoperative Restenosis in Patients with Coronary Heart Disease Undergoing PCI*

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ABSTRACT Objective: To investigate the effects of mailuoshutong pill combined with atorvastatin on blood lipid, inflammatory factors and postoperative restenosis in patients with coronary heart disease undergoing percutaneous coronary intervention (PCI). **Methods:** 93 patients with coronary heart disease undergoing PCI who were received in our hospital from May 2018 to February 2020 were selected, they were divided into two groups as group A, B, group A (n=46) were treated with atorvastatin, group B (n=47) were treated with mailuoshutong pill combined with atorvastatin, the clinical effect, electrocardiogram effect, blood lipid, inflammatory factors and postoperative restenosis rate of patients in the two groups were compared. **Results:** The total clinical effective rate of group B was 93.62%(44/47) after 2 months of treatment, which was higher than 76.09%(35/46)of the group A (P<0.05). The total effective rate of electrocardiogram in group B was 89.36%(42/47) after 2 months of treatment, which was higher than 67.39% (31/46) of the group A (P<0.05). The high-density lipoprotein cholesterol (HDL-C) was increased and Interleukin-6(IL-6), total cholesterol(TC), c-reactive protein (CRP), tumor necrosis factor-α (TNF-α), low density lipoprotein cholesterol(LDL-C), triglyceride (TG) were decreased in the two groups after 2 months of treatment (P<0.05). TC, TG, LDL-C, IL-6, CRP, TNF-α in group B were lower than those of group A , HDL-C in group B was higher than that of group A after 2 months of treatment(P<0.05). The incidence of postoperative restenosis in group B was 6.38% (3/47), which was significantly lower than 23.91%(11/46)in group A, the difference was statistically significant P<0.05). **Conclusion:** Mailuoshutong pill combined with atorvastatin treat the patients with coronary heart disease undergoing PCI, the efficacy is satisfactory, which can effectively improve the electrocardiogram efficacy, blood lipid, inflammatory factor levels, and reduce the incidence of postoperative restenosis.

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前言

冠心病是由于冠状动脉血管发生动脉粥样硬化病变,使得心肌发生缺氧、缺血乃至坏死的心脏疾病,对人民健康有较大危害[1,2]。经皮冠状动脉介入(PCI)术是治疗冠心病的常用方案,可较好的重建血液循环,阻止疾病进展,降低病残率和死亡率[3,4]。尽管 PCI 治疗技术较为成功,但仍有部分冠心病患者 PCI 术后发生胸痛、胸闷、心悸、乏力、气短等不良症状,同时也存在发生再次血管狭窄的风险,降低手术的治疗效果[5-7]。阿托伐他汀是临床用于冠心病一级、二级预防的常用药物,可有效改善血管内皮细胞的功能,阻断新生血管生成,发挥较强的抗炎效果[8,9]。中医学在防治 PCI 术后再狭窄方面积累了一定的实践经验,其中脉络舒通丸可改善局部炎症,调节血液循环,进而保护心肌,提高心肌功能[10],但有关于其在冠心病 PCI 术后的治疗中的应用仍需进一步研究以证实。本研究通过观察阿托伐他汀联合脉络舒通丸治疗冠心病 PCI 术患者的疗效,探讨其对患者血脂、炎症因子及术后再狭窄的影响,报道如下。

1 资料与方法

1.1 一般资料

选取我院于 2018 年 5 月 ~2020 年 2 月收治的 93 例冠心病 PCI 术患者,纳入标准:参考《临床疾病诊断与疗效判断标准》中的相关诊断标准确诊为冠心病[11];患者对本次研究方案知情且签署同意书;均符合手术指征,行 PCI 治疗,手术由同一组医师完成。排除标准:存在严重的感染疾病、风湿免疫系统疾病;研究前接受纤维蛋白溶解、抗凝药物等相关治疗;对本次研究用药存在禁忌者;重度心律失常者;合并恶性肿瘤者;合并重度心肺功能不全;合并血液系统疾病者;合并严重的肝肾功能不全情况者;精神异常、依从性差者。随机分为 A 组(n=46)和 B 组(n=47),所有患者均行 PCI 术。A 组男 30 例,女 16 例,病程 1~5 年,平均(3.16± 0.87)年;年龄 47~83 岁,平均(58.32± 3.87)岁;基础疾病:糖尿病 9 例,高血脂 10 例,高血压 6 例。B 组男 28 例,女 19 例,病程 1~6 年,平均(3.22± 0.76)年;年龄 45~79 岁,平均(56.90± 3.72)岁;基础疾病:糖尿病 7 例,高血脂 8 例,高血压 4 例。两组一般资料比较无明显差异(P>0.05),可比性好。本研究经我院医学伦理学委员会批准进行。

1.2 方法

两组患者入院后采用阿司匹林肠溶片(上海信谊百路达药业有限公司,国药准字 H31022475,规格:25 mg)治疗,术前 300 mg/ 次,术后 100 mg/ 次,1 次 /d。行 PCI 术后 A 组给予阿托伐他汀(北京福元医药股份有限公司,国药准字 H20203100,规格:20 mg)治疗,20 mg/ 次,1 次 /d。B 组在 A 组治疗的基础上联合脉络舒通丸(鲁南厚普制药有限公司,国药准字 Z20090636,规格:每瓶装 12 g)治疗,口服,0.84 g/ 次 ,3 次 /d。两组均治疗 2 个月。

1.3 观察指标

(1)疗效:记录两组治疗 2 个月后的心电图疗效、临床疗效。临床疗效判定标准如下[11]:总有效率 = 有效率 + 显效率。症状无改善甚至加重、心电图无改变(无效)。病情有改善,症状程度减轻,心电图部分恢复正常(有效)。临床症状全部改善,心电图提示心肌缺血较治疗前明显好转(显效)。心电图疗效判定标准如下:总有效率 = 显效率 + 有效率。心电图未见改善,ST 段较治疗前降低 0.05 mV 以上(无效)。心电图有改善,S-T 段提升大于 0.05 mV,但未到正常范围(有效)。心电图处于正常范围(显效)[12]。(2)血脂、血清炎症因子:采集两组治疗前、治疗 2 个月后的肘静脉血 4 mL,需在患者空腹状态下采集,采集完毕后经常规离心处理(离心半径 9.5 cm,3100 r/min 离心 11 min)分离得上清液,置于低温冰箱中待测。应用酶联免疫吸附法检测炎症因子水平:白介素 -6(IL-6)、C 反应蛋白(CRP)、肿瘤坏死因子 -α(TNF-α),采用 Beckman CX5 全自动生化分析仪检测患者血脂:低密度脂蛋白胆固醇(LDL-C)、高密度脂蛋白胆固醇(HDL-C)、三酰甘油(TG)、胆固醇(TC),严格遵守试剂盒(深圳晶美生物科技有限公司)说明书进行操作。(3)术后情况:记录两组术后再狭窄发生率。随访中行冠状动脉造影,结果显示扩张边缘或原扩张部位 5 cm 处血管腔直径狭窄≥ 50%为术后再狭窄[13]。

1.4 统计学处理

以 SPSS25.0 分析数据。性别、基础疾病、疗效等计数资料以率表示,行卡方检验。病程、血脂指标、炎症因子等计量资料经 Shapiro-Wilktest 检验符合正态分布,以($\bar{x}\pm s$)表示,行 t 检验。检验标准设为α=0.05。

2 结果

2.1 两组临床疗效比较

B 组治疗 2 个月后的临床总有效率为 93.62%(44/47),高于 A 组的 76.09%(35/46),差异有统计学意义(P<0.05),见表1。

表 1 两组临床疗效比较 [例(%)]

Table 1 Comparison of clinical efficacy between the two groups [n(%)]

Groups	Significant effect	Effective	Invalid	Total clinical effective rate
Group A(n=46)	11(23.91)	24(52.17)	11(23.91)	35(76.09)
Group B(n=47)	16(34.04)	28(59.57)	3(6.38)	44(93.62)
x^2				5.587
P				0.018

2.2 两组心电图疗效比较

治疗 2 个月后 B 组的心电图总有效率为 89.36%(42/47),高于 A 组的 67.39%(31/46)(P<0.05),见表 2。

表 2 两组心电图疗效比较 例(%)

Table 2 Comparison of electrocardiogram efficacy between the two groups [n(%)]

Groups	Significant effect	Effective	Invalid	Total clinical effective rate
Group A(n=46)	10(21.74)	21(45.65)	15(32.61)	31(67.39)
Group B(n=47)	15(31.91)	27(57.45)	5(10.64)	42(89.36)
x^2				6.648
P				0.010

2.3 两组血脂指标比较

治疗前，两组 LDL-C、HDL-C、TG、TC 组间对比无明显差异(P>0.05),治疗 2 个月后两组 HDL-C 升高,LDL-C、TG、TC 降低（P<0.05),B 组治疗 2 个月后 HDL-C 比 A 组高,LDL-C、TG、TC 比 A 组低(P<0.05),见表 3。

表 3 两组血脂指标比较($\bar{x}\pm s$,mmol/L)

Table 3 Comparison of blood lipid indexes between the two groups($\bar{x}\pm s$, mmol/L)

Groups	LDL-C		HDL-C		TG		TC	
	Before treatment	After 2 months of treatment	Before treatment	After 2 months of treatment	Before treatment	After 2 months of treatment	Before treatment	After 2 months of treatment
Group A (n=46)	4.36± 0.37	3.12± 0.42*	1.76± 0.39	2.31± 0.42*	3.04± 0.43	2.27± 0.31*	6.90± 0.72	4.62± 0.58*
Group B (n=47)	4.42± 0.41	1.83± 0.31*	1.72± 0.32	3.19± 0.47*	3.09± 0.39	1.53± 0.37*	6.96± 0.81	2.73± 0.64*
t	0.740	16.878	0.541	9.514	0.588	10.443	0.377	14.913
P	0.461	0.000	0.590	0.000	0.558	0.000	0.707	0.000

Note: Compared with before treatment, *P<0.05.

2.4 两组炎症因子指标比较

治疗前，两组 TNF-α、IL-6、CRP 组间对比无明显差异(P>0.05),治疗 2 个月后两组 TNF-α、IL-6、CRP 降低(P<0.05),治疗 2 个月后 B 组 TNF-α、IL-6、CRP 低于 A 组（P<0.05),见表4。

表 4 两组炎症因子指标比较($\bar{x}\pm s$)

Table 4 Comparison of inflammatory factors between the two groups($\bar{x}\pm s$)

Groups	TNF-α(ng/L)		IL-6(ng/L)		CRP(mg/L)	
	Before treatment	After 2 months of treatment	Before treatment	After 2 months of treatment	Before treatment	After 2 months of treatment
Group A(n=46)	132.28± 15.95	97.54± 14.32*	62.39± 7.23	43.24± 8.42*	71.88± 5.78	48.34± 6.54*
Group B(n=47)	131.35± 13.73	63.56± 9.01*	63.11± 8.18	29.53± 7.33*	72.24± 4.65	27.38± 5.23*
t	0.302	13.728	0.449	8.380	0.331	17.088
P	0.764	0.000	0.654	0.000	0.741	0.000

Note: Compared with before treatment, *P<0.05.

2.5 两组术后再狭窄发生率比较

疗程结束后,B 组术后再狭窄发生率为 6.38%(3/47),明显低于 A 组的 23.91%(11/46),差异有统计学意义(x^2=5.587,P=0.018)。

3 讨论

冠心病的治疗方案多样，包括药物治疗、PCI 以及冠状动脉旁路移植术,其中 PCI 开创了介入心脏病学的新纪元,已成为冠心病血运重建的主要手段[14-16]。但术后因 PCI 球囊或支架难以避免的引起血管内皮损伤,易产生冠状动脉再狭窄及其他不良心脏事件,且患者年龄越大,其发生风险也相对更高,引起心肌血运不充分,影响术后远期疗效[17-19]。现临床有关冠心病

PCI 术后产生冠状动脉再狭窄的机制尚不十分明确，现有的研究多认为与血小板激活聚集、血管内皮细胞功能受损、血管重塑以及炎症细胞增生等多种因素有关[20-22]。既往的资料统计结果显示[23]，冠心病 PCI 术后产生冠状动脉再狭窄的几率为 25%~50%。因此，术后积极给予患者有效的对症治疗具有重要意义。临床报道指出，冠心病 PCI 围术期间接受抗凝药物治疗，可有效降低心血管不良事件发生率。阿托伐他汀作为冠心病术前术后的常用药物，可阻止肝脏合成 TG，可较好的改善血脂，调节机体血流状况的作用[24]。同时阿托伐他汀具有抑制细胞基质金属蛋白酶、CRP 等活性，发挥抗炎、抑制血栓形成及改善血管内皮功能的作用[25]。以往的报道显示[26]，冠心病 PCI 术后患者给予阿托伐他汀治疗，疗效尚可，但仍有提升空间。

中医在治疗冠心病方面积累了较多的经验[27]。脉络舒通丸经过现代医药制剂工艺精制而成，其主要成分为水蛭、黄芪、白芍、金银花等药，黄芪、白芍可止痛活血；金银花具有清热解毒的功效；水蛭可直通经脉、血络，具有破瘀散结的效果，以上药物共同发挥化瘀通络、清热解毒的效果[28]。本研究结果显示，B 组的临床疗效、心电图疗效均高于 A 组，可见相较于单用阿托伐他汀治疗，联合脉络舒通丸治疗冠心病 PCI 术后患者可获取更好的治疗效果。进一步的血清指标观察结果显示，脉络舒通丸联合阿托伐他汀治疗可更好的改善机体血脂情况，降低机体炎症水平。以往研究结果显示，高脂血症是冠心病的重要危险因素之一[29]。TNF-α、IL-6 均是临床常见的炎症因子，可诱导炎症细胞活化，引起炎症因子黏附及聚集、损伤[30]。而 CRP 作为急性时相反应蛋白，对血栓形成具有促进作用，可导致血管痉挛，引起微循环障碍[31]。阿托伐他汀可加快消除 LDL-C，使 LDL-C 受体增加，进而发挥、达到对 LDL-C 合成进行抑制作用[32]；而 LDL-C 为运输内源性 TG 的重要载体，其水平降低会导致运载量降低，降低 TG 水平；同时阿托伐他汀具有调脂作用，可将 HDL-C 水平相应调高[33]。药理研究证实[34]，黄芪具有降低血液黏度及血液蛋白原含量的作用，可促进血液疏通；白芍可活血化瘀，能减少血小板凝聚，能发挥抗凝血作用，从而改善血液粘稠状态，最终达到舒张血管和疏通血液循环的功效。水蛭体内具备多种抗凝成分，如多肽和肝素等，能减少血小板凝聚，发挥抗凝功效；本研究结果还显示，B 组术后再狭窄发生率低于 A 组，表明脉络舒通丸联合阿托伐他汀治疗可有效减少不良事件发生情况，可能与该治疗方案可较好的调节血脂、降低炎症反应有关。

综上所述，脉络舒通丸联合阿托伐他汀治疗冠心病 PCI 术患者，疗效满意，可有效改善心电图疗效、血脂、炎症因子水平，并降低术后再狭窄发生率。

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