

川芎嗪对冠心病患者血脂质过氧化物等含量的影响*

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内容提要 本研究将 59 例陈旧性心肌梗塞患者随机分为治疗组 31 例, 对照组 28 例。治疗组每天静脉滴注川芎嗪 160 mg, 疗程 10 天; 测定治疗组川芎嗪静脉滴注前后血脂质过氧化物(LPO)、超氧化物歧化酶(SOD)、血硫基总量, 与对照组比较。结果表明: 川芎嗪有降低血 LPO($P < 0.01$)、提高血 SOD 活性($P < 0.05$)、增加血硫基总量($P < 0.01$)的作用; 心绞痛症状和发作明显改善, 与对照组比较, 差异有显著性意义($P < 0.05$)。川芎嗪降低血 LPO 含量、提高血 SOD 活性的机理可能与抗血小板聚集及改善心肌缺血、保护心肌细胞膜有关。

关键词 川芎嗪 冠心病 脂质过氧化物 超氧化物歧化酶

为了研究和寻找新的、有效的抗自由基损伤药物, 我们测定了 31 例陈旧性心肌梗塞经川芎嗪静脉滴注治疗前后血脂质过氧化物(LPO)、超氧化物歧化酶(SOD)等值, 同时与未用川芎嗪治疗的 28 例患者进行对照观察, 探讨川芎嗪有无抗自由基损伤作用。

临床资料

选择经临床和心电图表现诊断为陈旧性心肌梗塞患者 59 例作为研究对象, 随机分组。治疗组 31 例, 男 28 例, 女 3 例, 年龄 68.4 ± 6.24 岁; 梗塞部位: 陈旧性下壁心肌梗塞 16 例, 前壁 12 例, 高侧壁 3 例; 31 例患者有 17 例治疗前近期有心绞痛发作, 每天 1~2 次不等。陈旧性心肌梗塞病程 1~10 年不等。对照组 28 例, 均为男性, 年龄 67.6 ± 5.94 岁; 梗塞部位: 陈旧性下壁心肌梗塞 13 例, 前壁 11 例, 其他部位 4 例; 28 例患者治疗前 16 例近期有心绞痛发作, 每天 1~2 次不等, 持续时间 10 s~10 min 不等, 陈旧性心肌梗塞病程 1~9 年不等。

治 疗 方 法

一、治疗方法 治疗组入院次日用 5% 葡萄糖 250 ml 加入川芎嗪(无锡第七制药厂产品)160 mg 静脉滴注, 每天 1 次, 疗程 10 天。用药前后采肘静脉血查 LPO、SOD、血硫基总量。对照组入院次晨和入院后第 11 天晨分别采肘静脉血查 LPO、SOD 及血硫基总量, 观察期间两组患者均不用影响体内血自由基的药物, 研究并记录两组患者心电图、血压、心率和心绞痛变化。

二、检测方法 LPO 测定方法采用改良 TBA 法。SOD 测定按海军总医院生物研究所 SOD 活性测定试剂盒说明书操作。血硫基总量按以下方法测定: 取试管 3 支, 在样品管和对照管中分别加 0.1 ml 血清, 空白管加蒸馏水 0.1 ml, 3 管分别加入 tris-HCl 缓冲液 (pH 7.4) 3 ml。样品测定管、空白管加 DTNB 液 0.025 ml, 对照管加蒸馏水 0.025 ml, 混匀避光室温放置 40 min; 用 721-3 型分光光度计, 在波长 412 nm 处, 光径 1 cm 空白管调零, 测定样品管和对照管吸光度, 按下式计算。

血硫基总量($\mu\text{mol/L}$) = (测定管 - 对照

*广州军区科研经费重点资助课题

管)/13.6×3.125%

三、统计方法 治疗组与对照组治疗前后心绞痛发作频率比较用 χ^2 检验, 治疗前后的计量资料用配对 t 检验; 治疗组与空白组用两样本均数比较的 t 检验。

结 果

两组治疗前后血 LPO、SOD、血硫基总

附表 两组治疗前后血 LPO、SOD、硫基总量比较 ($\bar{x} \pm S$)

组别	例数		LPO	总 SOD	Mn-SOD	Cu-ZnSOD	硫基
			(nmol/ml)		(Nμ/ml)		(μmol/L)
治疗	31	治前	7.28±1.69	14.33±3.62	7.04±2.05	7.29±2.38	294.51±71.93
		治后	4.47±1.52**	19.98±2.94*	9.19±2.43*	10.80±2.19*	390.69±62.15**
对照	28	治前	7.49±2.34	16.94±3.90	7.55±2.38	9.02±1.89	301.28±69.43
		治后	8.11±2.79 ΔΔ	15.40±2.89 Δ	6.89±1.95 Δ	8.24±1.64 Δ	324.33±52.90 Δ

注: 与对照组比较, Δ $P < 0.05$, ΔΔ $P < 0.01$; 与治前比较, * $P < 0.05$, ** $P < 0.01$

讨 论

一、1986 年 Vladimirov 报道动脉粥样硬化患者血浆 LPO 含量升高⁽¹⁾。LPO 升高是血氧自由基作用于脂质的结果⁽²⁾。LPO 升高进一步加重了动脉粥样硬化病变, 形成了冠心病发病的恶性循环。相反, SOD 有清除血氧自由基、降低血 LPO 作用。凡能降低血 LPO、提高血 SOD 的药物均具有抗自由基损伤作用⁽³⁾。

二、川芎嗪有降低冠心病患者血 LPO、提高血 SOD 作用。治疗前后对比、两组对比均表明冠心病经川芎嗪静脉滴注 10 天后, 血 LPO 明显降低, 相应的血总 SOD、Mn-SOD、Cu-ZnSOD 及血硫基总量明显升高, 冠心病时自由基损伤的主要病理生理改变是脂质过氧化⁽⁴⁾。脂质过氧化损伤以脂质为主要成份的生物膜, 生物膜的完整性被破坏, 细胞内外钙平衡失调, 细胞肿胀破裂, 血管内皮细胞损伤, 加重血小板聚集⁽⁵⁾。川芎嗪通过抑制脂质过氧化, 降低血 LPO 含量, 提高血 SOD 活性及血硫基总量, 发挥抗心绞痛作用。

三、川芎嗪是中药川芎的有效成分, 有活血化瘀等作用。顽固性心绞痛应用硝酸盐、钙拮抗剂治疗无效时, 应用川芎嗪静脉滴注有

量变化和统计检验见附表。治疗组治疗前心绞痛发作频率每天 1~2 次者 17 例, 治疗后心绞痛发作频率每天 1~2 次者 3 例, 治疗前后心绞痛发作频率比较 $P < 0.01$ 。对照组治疗前后心绞痛发作频率每天 1~2 次者分别为 16 例、14 例。提示冠心病静脉滴注川芎嗪后心绞痛症状改善。

效。川芎嗪降低血 LPO, 提高血 SOD、硫基总量、中止心绞痛发作的机理可能为: (1) 调节动脉粥样硬化患者前列环素(PGI₂)与血栓素 A₂(TXA₂)平衡、抗血小板聚集^(6,7)。(2) 川芎嗪可加速血氧自由基清除、抑制血小板聚集、抑制体内 TXA₂合成、促进 PGI₂合成⁽⁸⁾, 使血氧自由基清除加速, LPO 生成减少。

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decreased, 4B4+ cells increased, 2H4+ cells did not markedly change after adding TCS. The raise of DNA content in S stage was dose-dependent to TCS, especially in large dose. It is concluded that TCS could selectively inhibit T8+ cells and could obviously increase the number of 4B4+ cells. It is suggested that TCS could enhance humoral immunity through the ratio of immunoregulatory T cells. So TCS might help immunodeficiency patients such as AIDS to reestablish their immune system.

Key words trichosanthin, immunoregulation, T lymphocyte, deoxyribonucleic acid content, systemic lupus erythematosus

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Clinical and Experimental Study of Benign Prostatic Hyperplasia with Intraglandular Injection of Chuan Shen Tong (川参通)

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1038 cases of benign prostatic hyperplasia (BPH) were treated by injection of Chuan Shen Tong (CST), a Chinese herbal medicine, into the prostate gland. At the end of treatment the effective rate was 96%. After the treatment the BPH with urodynamic measurement was studied and it was found that the peak flow rate and mean flow rate increased 18% and 41.8% respectively. Transabdominal and transrectal ultrasonographies were used to measure the shrinkage of prostate's size after the injection treatment to be 0.51 and 0.4 cm (mean diameter) respectively. Animal model of BPH was established by the testosterone propionate. The prostatic weight and prostatic index was measured in mice after the injection of CST, it significantly decreased compared with that of the control ($P < 0.01$). The pathological findings: The hyperplastic papillae disappeared and the body of prostate markedly shrank in size. Experiment dogs has been carried out for the prostate quantitative analysis. The result revealed that the prostate parenchyma and intercellular substance shrank to 26.8% and 4.5% respectively.

Key words Chinese herbal medicine, Chuan Shen Tong, benign prostatic hyperplasia

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Hemodynamic Study on Nitroglycerin Compared with *Salvia Miltiorrhiza*

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This report investigated the hemodynamic changes of both nitroglycerin and *Salvia miltiorrhiza* (Co.) concerning pulmonary capillary-wedge (PCW), mean pulmonary artery pressure (MPAP), cardiac output (CO), cardiac index (CI), systemic mean pressure (SMP), and heart rate (HR). In 20 patients with heart diseases of normal cardiac function, nitroglycerin were compared with *Salvia miltiorrhiza* (Co.) using Swan-Ganz Catheter, which were self-compared. Result: (1) Both drugs had the similar vaso-dilating effects, reduced the filling pressure of left ventricle and increased the cardiac output but different in the time of appearance and duration, particularly concerning CO and CI. (2) The effect of *Salvia miltiorrhiza* (Co.) was markedly superior to the nitroglycerin. The action of former was more persistent and the improvement of cardiac function was better than that of latter.

Key words nitroglycerin, *Salvia miltiorrhiza* (Co.), hemodynamic

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Effect of Ligustrazine on Plasma Lipid Peroxidation, Superoxide Dismutase of the Coronary Heart Disease

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A clinical study on 59 remote myocardial infarction cases were divided randomly into treated