

# 玉屏风散及生脉饮对柯萨奇B病毒性 心肌炎的疗效观察

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**内容摘要** 本文报道用乳酸脱氢酶释放法对30例柯萨奇B病毒性心肌炎患者作自然杀伤(NK)细胞活性的检测,并与20例健康志愿者对照。结果发现,80%的患者有NK细胞活性降低,其中24例(80%)患者低于14%,15例(50%)患者低于10%。用玉屏风散和生脉饮治疗2~3个月后复查,NK细胞活性由治前的 $12.26 \pm 1.31(\%, M \pm SD, \text{下同})$ 升高至 $31.99 \pm 4.23 (P < 0.001)$ ,同时患者的临床症状好转,心电图明显改善。提示玉屏风散和生脉饮可用于治疗柯萨奇B病毒性心肌炎。

**关键词** 玉屏风散 生脉饮 心肌炎 柯萨奇B病毒 自然杀伤细胞

病毒性心肌炎是目前常见疾病之一,其慢性迁延的特点和反复发作的临床表现及免疫病理变化已引起临床广泛重视。本文报道用乳酸脱氢酶(LDH)释放法对30例柯萨奇B(CB)病毒性心肌炎患者作自然杀伤(NK)细胞活性的检测,并观察玉屏风散和生脉饮对NK细胞活性、心电图及临床症状的影响。

## 资料与方法

一、临床资料:患者组:病毒性心肌炎患者30例,男14例,女16例,年龄22~57岁,平均35岁;病程6个月~4年。临床诊断均符合全国心肌炎心肌病专题座谈会纪要拟定的标准[中华内科杂志 1987; 2(10):597]。对照组:健康志愿者20名,男女各10名,年龄22~57岁;均为体检及心电图检查无异常发现,近期无感冒病史者。用CB1~6病毒抗原与患者血清作微量中和试验,30例患者中获阳性反应者26例,其中 $B_2 > 1:128$ 者4例, $> 1:512$ 者14例; $B_4 > 1:256$ 者4例, $> 1:1024$ 者4例。其余4例中有3例为 $B_2 < 1:128$ (临界状态),另1例为1:64。被柯萨奇B<sub>2</sub>病毒感染者,临床上均有上呼吸道感染后心悸、胸闷或气短等

病史,并有反复感冒、倦怠乏力等症状,伴有频发早搏、短阵室性心动过速、ST段及T波改变、房室传导阻滞等心电图异常表现。

二、NK细胞活性测定:用LDH释放法,取肝素抗凝静脉血4ml,用淋巴细胞液分离淋巴细胞。将此效应细胞与传代细胞(K<sub>562</sub>)用RPMI-1640营养液洗2次,再以0.5%牛血清白蛋白-1640洗1次,细胞活力要求达98%以上。每次试验后NK试验管(效应及靶细胞比例10:1)、自然释放管及最大释放管(1%NP-40)各做3只复管,依次加入效应细胞100 $\mu$ l、牛血清白蛋白-1640 100 $\mu$ l、1%NP-40 100 $\mu$ l于圆底小试管内,各管混匀后1000r/min离心5分钟,置37 $^{\circ}$ C 5%CO<sub>2</sub>温箱内培养2小时,取出后每管加入冷RPMI-1640 50 $\mu$ l,混匀,离心同上。各管取上清液100 $\mu$ l分别置平底96孔板反应孔中,在32 $^{\circ}$ C下预温,各管分别加入32 $^{\circ}$ C预温的LDH底物混合物100 $\mu$ l,在酶联检测仪490nm波长下读取各孔OD值。各管求得平均每分钟OD值变化量后,按下式计算细胞毒性百分数。

细胞毒性% =

$$\frac{\text{试验管 OD 值/min} - \text{自然释放管 OD 值/min}}{\text{最大释放管 OD 值/min} - \text{自然释放管 OD 值/min}} \times 100$$

三、给药方法:(1)健康志愿者,在取得

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临床基本资料(如确诊近期无感冒,体检、心电图以及NK细胞活性%正常)后,服玉屏风散15g,每日2次。1周后复查NK细胞活性。(2)病毒性心肌炎患者,在取得上述临床基本资料后,服玉屏风散15g,每日2次;生脉饮10ml,每日2次。2~3月后复查NK细胞活性及心电图等。

## 结 果

一、健康志愿者NK细胞活性:20例健康志愿者服药前的平均值为 $17.84 \pm 1.93$ (%,  $M \pm SD$ ,下同);服药后为 $23.37 \pm 1.45$  ( $P < 0.05$ )。

二、病毒性心肌炎患者NK细胞活性:30例病毒性心肌炎患者服药前的平均值为 $12.2^6 \pm 1.31$ ,NK细胞低于14%者24例占80%,其中低于10%者15例,占总数的50%;服用玉屏风散及生脉饮2~3个月后复查,NK细胞活性普遍上升,平均值为 $31.99 \pm 4.23$ ,与治疗前比较差异显著( $P < 0.001$ )。

三、临床症状的改善:30例病毒性心肌炎患者在服用玉屏风散及生脉饮后,心悸、胸闷、乏力、低热和关节酸痛等均有明显改善。治疗前胸闷者21例,经治疗后15例消失,4例改善,2例无变化;心悸者22例,治疗后16例消失,6例改善;气短者14例,治疗后8例消失,4例改善,2例无变化;严重乏力者12例,治疗后8例消失;低热者5例,治疗后均消失;关节酸痛者14例,治疗后12例消失,2例无变化。

四、心电图的改善:30例病毒性心肌炎患者,治疗前有窦性心动过速者5例,治疗后均获缓解;频发室性早搏者22例,治疗后除3例无改变外,余14例早搏消失,5例改善;短阵室速者3例于治疗后均消失;窦房传导阻滞者3例,于治疗后2例消失,1例改善;Ⅲ度房室传导阻滞3例中,1例恢复,2例转为Ⅱ度;Ⅱ度2型者2例,治疗后均改善。

## 讨 论

病毒性心肌炎与细胞免疫有密切关系,现已受到临床上普遍重视。我们曾对病毒性心肌炎患者的低细胞免疫反应进行探讨<sup>[1~3]</sup>。继诸项细胞免疫的研究后,本实验对30例病毒性心肌炎患者进行了天然杀伤细胞(NK细胞)活性的研究。发现15例(50%)患者的NK细胞活性低于10%,24例(80%)患者的NK细胞活性低于14%,故呈低反应者为50~80%。NK细胞既有淋巴细胞的某些特征,又具有粘附能力和免疫调节功能<sup>[3]</sup>。有报道NK细胞对肿瘤和微生物具有细胞毒性作用。在病毒感染初期,NK细胞活性缺陷可引起心肌损害的扩散。动物实验曾发现NK细胞活性对柯萨奇B病毒有一定的抵抗力<sup>[4]</sup>。Anderson等发现反复发作性心肌炎患者有50%NK细胞活力降低,并已在健康人和其他心脏病患者中进行对照比较证实<sup>[5]</sup>。本组病毒性心肌炎患者用玉屏风散和生脉饮治疗后使NK细胞活性明显提高( $P < 0.001$ )。与此同时使患者的临床症状较前好转,心电图明显改善。本结果说明,玉屏风散及生脉饮可用于治疗因CB病毒所致反复发作之心肌炎患者,其治疗效果可能与其提高了NK细胞活性有关。

## 参 考 文 献

1. 包世宏,等.植物血凝素皮肤试验的临床应用.上海第二医学院学报 1984; 1:69.
2. 陈曙霞,等.胸腺素治疗病毒性心肌炎细胞免疫功能低下者的探讨.上海第二医学院学报 1984; 2:101.
3. 周光炎,等.单核细胞和血浆免疫调节功能异常与病毒性心肌炎患者免疫低反应性的关系.上海免疫学杂志 1984; 4(3):268.
4. 恒生圆子,等.NK(自然杀伤)细胞的抗病毒作用.国外医学微生物学分册 1984; 2:66.
5. Herberman RB, et al. Revolutionary and biological significance in immune regulation. Rubin LN, et al. ed. New York, Marcel Dekker, 1982:189.

## Abstracts of Original Articles

### Research on Stomach Yin(阴) Deficiency Syndrome due to Abdominal Operation or Severe Acute Abdominal Diseases (I)

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The Spleen-Stomach theory is an important component of the theories of TCM. Exploration of pathophysiologic changes in patients with Stomach Yin Deficiency Syndrome (SYDS) is of help in explaining the Spleen-Stomach theory. Hence patients with SYDS due to abdominal operation or severe acute abdominal diseases were selected as objects to be observed. The endotoxin in plasma, immune function of the body, the mean temperature and blood perfusion rate at the centre of the tongue, area representing the Spleen and Stomach, the surface pH and index of electric conduction of the tongue and rheologic changes were determined. The results showed that the content of plasma endotoxin in patients with SYDS was  $346 \pm 216$  ng/ml ( $\bar{x} \pm SD$ ). The value in all patients with SYDS was beyond normal (50 ng/ml), the highest being 1050 ng/ml. ANAE and LTT were decreased, as compared to the control ( $P < 0.001$ ). The content of IgG, IgA, CIC in blood increased ( $P < 0.05$ ,  $P < 0.001$ , and  $P < 0.001$  respectively), and that of IgM decreased ( $P < 0.002$ ). The consistency of  $C_3$  in patients with SYDS was 83.6% of the control ( $P < 0.001$ ), and that of  $C_4$  and  $C_5$  increased ( $P < 0.01$  and  $P < 0.001$  respectively). The mean temperature of the tongue with SYDS was  $0.64^\circ\text{C}$  lower than the control ( $P < 0.05$ ), and the blood perfusion rate was decreased 16.4% than the control ( $P < 0.05$ ). The surface pH and index of electric conduction in SYDS were lower than those in the control ( $P < 0.01$  and  $P < 0.001$  respectively). The ESR, plasma viscosity and fibrinogen levels were also increased ( $P < 0.001$ ).

Judging from the results in this study that there were endotoxemia, lowered cellular immune function, decreased mean temperature and blood perfusion rate of tongue and rheologic changes in patients with SYDS, the authors are able to infer that cause of SYDS might include infectious endotoxemia and damage of immune function of the body. There were decreased metabolism, blood perfusion rate of digestive tract, damaged secretory and absorptive function and shortage of water and electrolytes in patients with SYDS.

(Original article on page 16)

### The Therapeutic Effect of Yupingfeng San(玉屏风散) and Shengmai Yin(生脉饮) on Coxsackie B Viral Myocarditis

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A "LDH release method" was used to determine NK cell activity in 30 cases of Coxsackie B viral myocarditis and contrasted with 20 normal volunteers. About 80% cases revealed NK cell activity deficiency. Among them, the NK activity of 24 cases (80%) was less than 14%; and 15 cases (50%) less than 10%. After Yupingfeng San and Shengmai Yin treatment for 2~3 months, their NK cell activity was elevated from  $12.26 \pm 1.31\%$  to  $31.99 \pm 4.23\%$  ( $P < 0.001$ ). At the same time, their clinical manifestations and EKG changes were improved or returned to normal.

(Original article on page 20)