

艾灸对桥本氏甲状腺炎患者外周血 ADCC 活性的作用

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内容提要 采用艾灸治疗 35 例桥本氏甲状腺炎患者。结果发现: 患者治疗前外周血 ADCC 活性与甲状腺微粒体抗体结合率均明显高于正常, 且两者之间有明显的相关性。经艾灸治疗后, 两者都显著下降, 并仍保持相关性。提示艾灸治疗桥本氏甲状腺炎很可能与其降低甲状腺微粒体抗体和 K 细胞活性的作用有关。

关键词 艾灸 桥本氏甲状腺炎 抗体依赖细胞介导的细胞活性

在桥本氏甲状腺炎的病理中, K 细胞起着非常重要的作用^[1], K 细胞的作用亦称为抗体依赖细胞介导的细胞毒性作用 (Antibody dependent Cell-mediated Cytotoxicity, ADCC)。在桥本氏甲状腺炎, K 细胞必须与抗甲状腺的自身抗体结合后才能对甲状腺组织产生细胞毒效应。我们在以前的观察中发现, 艾灸对桥本氏甲状腺炎患者的免疫功能和甲状腺功能都有较好的调整作用^[2]。为了进一步探讨艾灸治疗桥本氏甲状腺炎的免疫学机理, 对患者治疗前后外周血淋巴细胞 ADCC 活性的变化以及 ADCC 活性与血清甲状腺微粒体抗体 (MCA) 结合率的关系作了观察。

资料和方法

一、资料: 桥本氏甲状腺炎患者 35 例, 选自上海市第六人民医院同位素室和本所的甲状腺专科门诊。所有患者均符合 Fisher's 临床诊断标准中确诊的条件^[3]。其中男 2 例, 女 33 例; 年龄 19~61 岁, 平均 37.6 岁。已出现甲状腺功能减退者 18 例, 甲状腺功能正常者 17 例; 病程 10 个月~21 年, 平均 10.1 年。

二、治疗方法: 采用隔附子饼灸 (附子饼由本所自制), 取穴: (1) 大椎、肾俞、命门; (2) 膻中、中脘、关元。两组穴位交替, 每次

每穴灸五壮, 每壮含甲级纯艾绒 (苏州医疗用品厂产品) 2 g。住院患者每天治疗 1 次, 门诊患者隔天治疗 1 次, 均以 50 次为 1 个疗程。

三、免疫学检测方法

1. 血清 MCA (甲状腺微粒体抗体) 结合率: RIA 法 (放射免疫分析法, 正常结合率 <15%)。

2. 外周血淋巴细胞 ADCC 活性测定: 血红蛋白酶释放试验^[4,5]; (1) 无菌抽取静脉血 2 ml, 肝素抗凝, 密度梯度离心法分离出单个核细胞, 以 Hanks 液洗 2 次, 再用培养液 (RPMI-1640 培养液加 10% 小牛血清) 洗 1 次, 调细胞浓度至 $1 \times 10^7/\text{ml}$ 。(2) 绵羊红细胞 (SRBC) 以 Hanks 液洗 3 次, 配成 2% 浓度, 再用培养液调整细胞浓度至 $2 \times 10^8/\text{ml}$ 。(3) 马抗羊红细胞溶血素 (抗 SRBC), 上海生物制品研究所生产, 效价: 1:4000, 用 Hanks 液作 1:5000 稀释。(4) 加样分 4 管: S 管 (自然释放管), 加 SRBC $10\mu\text{l}$ 、培养液 $90\mu\text{l}$; C 管 (抗体对照管), 加 SRBC $10\mu\text{l}$ 、抗 SRBC $10\mu\text{l}$ 和培养液 $80\mu\text{l}$; T 管 (实验管), 加 SRBC $10\mu\text{l}$ 、抗 SRBC $10\mu\text{l}$ 和淋巴细胞悬液 $80\mu\text{l}$; M 管 (最大释放管), 加 SRBC $10\mu\text{l}$ 和灭菌双蒸水 $90\mu\text{l}$ 。混匀, 在 37°C 、5% CO_2 的环境中培养 18 小时。离心 ($500\text{rpm} \times 3\text{min}$), 取上清液 $10\mu\text{l}$, 加反应液 (邻苯二胺 2 mg、0.1M 柠檬酸 1.2ml、0.2M 磷酸氢二钠 1.3ml、双蒸水 2.5ml, 临用前加 30%

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H₂O₂ 10μl) 40μl, 37℃水浴 10 分钟, 以 1 N 硫酸终止反应。用 MR 600 Reader 酶标仪在波长 490nm (参考波长 630) 处读数, 取其 OD 值按以下公式计算 ADCC 活性:

$$ADCC\% =$$

$$\frac{T \text{管}(OD \text{值}) - C \text{管}(OD \text{值})}{M \text{管}(OD \text{值}) - S \text{管}(OD \text{值})} \times 100\%$$

四、统计学方法: 患者治疗前后测定指标变化采用配对 t 检验, 分析外周血淋巴细胞 ADCC 活性与血清 MCA 结合率的关系采用直线回归相关分析。

结 果

一、艾灸治疗前后患者外周血淋巴细胞 ADCC 活性和血清 MCA 结合率的变化: 见附表。

附表 艾灸治疗前后 ADCC 活性和 MCA 结合率的变化 ($\bar{x} \pm S\bar{x}$)

	例数	ADCC 活性(%)	MCA 结合率(%)
治疗前	35	38.87 ± 2.49	44.74 ± 2.03
治疗后	35	24.81 ± 1.56	12.92 ± 1.70
P 值		<0.001	<0.001

从表可知, 经 1 个疗程的艾灸治疗后, 患者外周血淋巴细胞 ADCC 活性和血清 MCA 结合率均有显著下降。

二、35 例患者外周血淋巴细胞 ADCC 活性与血清 MCA 结合率的关系: 治疗前 $y = 0.21x + 31.26$, $r = 0.351$, $P < 0.05$; 治疗后 $y = 1.34x + 5.78$, $r = 0.447$, $P < 0.05$ 。患者治疗前后外周血淋巴细胞 ADCC 活性和血清 MCA 结合率均呈显著相关性。

讨 论

不少研究都发现, K 细胞主要与微粒体抗

体结合产生细胞毒效应, 而甲状腺球蛋白抗体不参加 ADCC 效应; 一些研究显示, 血清中微粒体抗体的效价与甲状腺组织中淋巴细胞浸润的程度以及 K 细胞对甲状腺细胞的破坏程度相一致^(6,7)。采用血红蛋白酶释放法测定患者外周血 ADCC 活性, 虽不是直接测定 K 细胞对甲状腺组织的破坏能力, 但能够排除其他影响因素, 准确地反映患者外周血中 K 细胞本身的活性, 并且已看到, 患者血清 MCA 结合率与淋巴细胞 ADCC 活性成正相关, 这与文献所报道的结果相吻合。经过艾灸治疗后, 外周血淋巴细胞 ADCC 活性和血清 MCA 结合率都明显下降, 并且两者之间仍保持显著的相关性。此外, 我们还看到, 患者经艾灸治疗后血清 MCA 结合率及淋巴细胞 ADCC 活性的变化与临床疗效相一致(见另文)。因此, 我们认为, 艾灸治疗桥本氏甲状腺炎很可能与其降低甲状腺微粒体抗体和 K 细胞活性的作用有关。

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Observation on Treatment of Breast Proliferation-Disease with Modified Xiao Yao San(逍遥散)and Er Chen Decoction(二陈汤)

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The authors report the 3 months' treatment of 51 cases of breast proliferation disease with modified Xiao Yao San and Er Chen decoction, an effective rate being 96.1%. In each patient before and after treatment, saliva estradiol (SE₂), saliva progesterone (SP), saliva testosterone (ST) and plasma prolactin (PRL) concentrations were monitored and breast molybdenum-target X-ray films were taken. The results showed that after treatment, SE₂ concentrations declined very significantly ($P < 0.001$); SP concentrations declined significantly ($P < 0.05$); PRL concentrations declined very significantly ($P < 0.005$), but ST concentrations did not change significantly. Breast molybdenum-target X-ray films showed absorption of proliferation masses in 21 cases. These indicated that the medicine could regulate endocrine system, perhaps through suppressing secretion of PRL, decreasing prolactin antagonist action to follicular stimulating hormone so as to restore follicle function, and could regulate pituitary-follicle axis and make the axis normal.

Key Words breast proliferation disease, estradiol, progesterone, testosterone, prolactin, Xiao Yao San, Er Chen decoction

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Effect of Moxibustion on the Antibody-Dependent Cell-Mediated Cytotoxicity Activity in Peripheral Blood of Patients with Hashimoto's Thyroiditis

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To investigate the immune regulating effect of moxibustion on the patients with Hashimoto's thyroiditis, 35 patients were treated by moxibustion and the changes of antibody-dependent cell-mediated cytotoxicity (ADCC) activity in the peripheral blood of the patients and their relationship with thyroid microsomal antibody (MCA) before and after treatment were observed. It was found that the activity of ADCC and the combining rate of MCA were higher than normal and they were closely related to each other. After treatment, both of them declined remarkably and the relationship between them remained the same. The result indicated that the treatment of Hashimoto's thyroiditis by moxibustion might well be related to its effect of decreasing the activity of ADCC and the titer of anti-thyroid antibodies.

Key Words moxibustion, Hashimoto's thyroiditis, antibody-dependent cell-mediated cytotoxicity

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Clinical Study on Symptoms Complex of TCM in Patients with Congestive Heart Failure

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This paper have carried out clinical study on 65 cases of congestive heart failure (CHF). (1) The insufficiency of Heart-Qi(气) was the main cause of invasion of CHF. Along with aggravation of CHF, the Heart Yin(阴) deficiency developed into the Heart Yang(阳) deficiency and accompanying symptoms multiplied gradually. (2) Except plasma aldosterone (pALD) ($P > 0.05$), the levels of plasma atrial natriuretic polypeptide (pANP) and plasma angiotensin II (pAII) in the Heart Yin deficiency group was increased obviously compared with healthy persons ($P < 0.05 \sim 0.001$). In the Heart Yang deficiency group, the levels of pANP and pALD was increased markedly ($P < 0.05 \sim 0.005$), the level of pAII was decreased obviously ($P < 0.05$), as compared with the Heart Yin deficiency group. (3) There were positive correlations between pANP and pALD ($P < 0.005$), negative correla