

气功自控疗法对再生障碍性贫血患者 T细胞亚群的影响

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内容提要 本实验运用 McAb 和 ABC 免疫酶法观察了气功自控疗法对再生障碍性贫血患者外周血淋巴细胞亚群分布的影响。发现练功患者比未练功患者外周血 T 细胞明显升高 ($P < 0.02$), Ts 细胞减低, T_h/T_s 比值明显增高 ($P < 0.02$)。提示: 练气功可调节患者 T 细胞亚群, 改善免疫功能, 有助于再障患者造血功能的恢复。

实践证实气功对提高人体健康水平, 治疗疾病确有功效。特别是对慢性病、疑难病的治疗更有其独特作用。我院血液科对部分住院血液病患者教练气功自控疗法, 取得一定疗效。为研究其疗效机理, 我们应用单克隆抗体 (McAb) 及 ABC 免疫酶法检测再生障碍性贫血 (简称再障) 患者外周血 T 细胞亚群的分布特点, 报告如下。

资料与方法

一、一般资料: 全部患者共 23 例, 均符合 1987 年全国再障会议诊断标准^①。患者分为两组: 练功组 10 例, 均为住院患者, 男 8 例, 女 2 例; 年龄 20~42 岁, 平均 31.2 岁。对照组 13 例, 住院 8 例, 门诊 5 例; 男 8 例, 女 5 例; 年龄 14~69 岁, 平均 32 岁。

二、练功方法: 练功组由作者教练乔木铎气功师的气功自控疗法, 调息补气功 (晨 5~7 时), 蹁步运化功 (上午 9~11 时), 按头安神功 (中午), 摩肾益精功 (晚睡前), 松静疏泄功 (不定时) 5 种基本功法。再根据病情教练坐转乾坤功、消炎止痛功、利尿功、五脏按摩功等对症功法。每天坚持练功 1 小时以上, 并坚持练功超过 1 个月。对照组为同期未参加练功的患者。

三、观察方法: 试剂: (1) 磷酸缓冲液 (PBS, pH7.2~7.4)。 (2) ABC 药盒 (美国 Vector 社提供)。 (3) BAF 固定液: 由丙酮、福

尔马林、磷酸缓冲液组成。 (4) DAB 液: 3'3'-二氨基联苯胺 (DAB) 10mg + PBS 10ml + 3% H_2O_2 0.5ml, 用前配制 (和光纯药工业株式会社产品)。 (5) McAb 稀释液: PBS 中加入牛血清白蛋白 (0.1%), NaN_3 (0.1%)。 (6) McAb: 抗 leu 1 (全部 T 细胞、部分 B 细胞)、抗 leu 2a (抑制 T 细胞)、抗 leu 3a (辅助 T 细胞), 以上来源均为 Besto-Dickinson 社提供。Nula (E 细胞、活化 T 细胞), 由日本 Mori 先生赠送。

方法: 采用 ABC 免疫酶法 (按 Hsu 法^②略加改进)。 (1) 取患者静脉血 1~2ml, 以 1% 乙二胺四乙酸二钠 (EDTA) 抗凝 (1:9), 以 PBS 稀释 2 倍后, 置淋巴细胞分层液 (比重 1.077, 上海试剂二厂产品) 上, 1500rpm/min 离心 30min, 取出单个核细胞层, 以冷 PBS 洗两次后, 调整细胞数为 5×10^5 /ml, 涂片时, 每管加入 1% 牛血清白蛋白 10 μ l, 细胞悬液 100 μ l 用细胞离心机 (Cytospin 2) 300rpm 离心 3min, 取出涂片, 在空气中充分干燥。 (2) 涂片用 BAF 固定液固定 30s (温度 0~4°C), 以 PBS 洗 3 次后依次滴加适度稀释的 McAb、生物素化马抗鼠 IgG、ABC, 最后以 DAB 发色, 复染后镜检, 计数 200 个淋巴细胞, 算出阳性率。

结 果

两组患者外周血淋巴细胞亚群分布, 见附表。

附表 两组患者T细胞亚群分布

	例数	leu 1 + (%)	leu 2 a + (%)	leu 3 a + (%)	leu 3 a + / leu 2 a +	Nu1a + (%)
练功组	10	53.5±9.9 (37.0~66.5)	35.9±9.8 (22.5~51.5)	38.3±6.7 (27.0~45.5)	1.18±0.41 (0.68~1.74)	6.1±1.9
对照组	13	56.6±9.4 (42.5~81.5)	40.2±11.2 (23.5~64.5)	29.1±9.1 (15.5~47.5)	0.77±0.29 (0.31~1.31)	6.1±1.7
P 值		>0.4	>0.2	<0.02	<0.02	>0.1

注：上行为 $\bar{X} \pm SD$ ，下行为范围

由附表可见两组患者 leu1⁺ 细胞差异不显著($P>0.4$)；Nu1a⁺细胞为激活 T 或 B 细胞，两组差异亦不显著；练功组 leu 3a⁺(T_h) 细胞较未练功组明显升高($P<0.02$)，练功组 leu2a⁺(T_s) 细胞虽较未练功组有所下降，但 $P>0.2$ ，可能与本文例数较少有关；练功组 leu 3a⁺/leu 2a⁺(T_h/T_s) 比值较未练功组明显提高($P<0.02$)。

讨 论

T 淋巴细胞(简称 T 细胞)是不均一的细胞群体，成熟 T 细胞至少可分为两个亚群，即 T_h 和 T_s。T_h 细胞能辅助其他免疫细胞发挥其功能，而 T_s 细胞能抑制其他 T 细胞的活性，起着免疫调节作用。T_h 和 T_s 亚群不仅是免疫调节的中心枢纽^[3]，而且近年发现它对造血功能具有正负调控作用^[4]。不少学者发现再障患者有 T 细胞亚群比例失调^[5,6]，这种异常改变与再障骨髓造血功能障碍的关系日益受到人们的重视。再障患者 T_h 细胞百分率减少，T_s 上升，T_h/T_s 比值降低。我们检查了健康人及再障患者外周血淋巴细胞亚群分布，也证实了这一点。这些细胞数量的平衡失调，造成了免疫系统紊乱，它不同程度地抑制了正常造血集落的形成^[5]，它与再障患者骨髓造血细胞功能衰竭可能存在着因果关系。

气功自控疗法是通过气功锻炼达到能够控制自身机能稳定在适中程度，从而有益于克服自身疾病的方法，它依靠练功者的主观能动性，强调整体，重视内因，动静相兼，辨证论治。并将意念导引、式子导引、调息导引三者有机地结合起来，从而达到练气养气，促进内气运

行，平衡阴阳，疏通经络，调整气血，治病保健，强身延年的目的。我们的观察表明，再障患者通过练功，使 T_h 明显上升($P<0.02$)，T_s 下降，T_h/T_s 比值明显上升($P<0.02$)，有明显的调节淋巴细胞亚群的作用，这可能是患者造血功能改善的原因。

本文中的 10 例练功者追踪观察，有 8 例效果显著，其中 6 例缓解^[7]，2 例血红蛋白稳定上升 3g 以上，另外 2 例中 1 例未坚持练功，1 例失去联系。未练功者追踪 8 例，1 例缓解，2 例血红蛋白上升 3g 以上(其中 1 例练本功法后血象才开始上升)，5 例效果不明显。症状方面，练功者饮食、睡眠、一般状况均有明显改善，出血、感染有明显减少。说明练本功法有利于再障患者调动机体内在积极因素，调节失衡的淋巴细胞亚群，以促进疾病的恢复。提示教患者练气功，调动患者主动内在因素，较之一般被动治疗有其优越性，值得进一步探索与研究。

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Correlation Between Syndrome Types of TCM and Insulin Release Curves in Pre-Aged and Aged Diabetics

—An Analysis of 142 Cases

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This paper deals with the correlation between insulin release curves and syndrome types of TCM in 142 cases of diabetes. The syndromes were divided into 3 types: I, Qi-Yin (气阴) deficiency, 94 cases; II, Yin (阴) deficiency with interior heat overabundance, 36 cases; and III, deficiency of both Yin and Yang (阳), 12 cases. The results showed that fasting for 60 min, the postprandial ($M \pm SD$) of serum insulin were $18.27 \pm 1.10 \mu\text{u/L}$ and $45.21 \pm 2.82 \mu\text{u/L}$ in type I $25.47 \pm 1.88 \mu\text{u/L}$ and $60.53 \pm 0.25 \mu\text{u/L}$ in Type II; $8.29 \pm 0.93 \mu\text{u/L}$ and $19.20 \pm 1.67 \mu\text{u/L}$ in type III respectively. It was obvious that serum insulin level was Type II > Type I > Type III. But there was no difference between the aged and the pre-aged with diabetics ($P > 0.05$), even though the former was lower than the latter.

According to the analysis of insulin release curve types (insulin secretion level and peak time), there were 39 cases (41.5%) of the low secretion type, 7 cases (7.5%) of the high secretion type among the 94 cases of Type I. Of the 36 cases of Type II, there were 7 cases (19.4%) of high secretion, more than that of Type I, and the highest value reached 155~106 $\mu\text{u/L}$. The 12 cases of Type III are all of the lower secretion type, with the fasting mean value being 47.5 $\mu\text{u/L}$ and 10.93 $\mu\text{u/L}$ and the postprandial highest value 21.69 $\mu\text{u/L}$ and 20.73 $\mu\text{u/L}$, much lower than those of Types I and II.

The results also showed that correlation between insulin secretion level and blood glucose value was significantly negative. The paper also discussed the mechanism of insulin secretion condition of 3 syndrome types according to the theory of TCM.

(Original article on page-338)

A Preliminary Study on the Changes of T-Cell Subsets in the Aplastic Anemia Patients Treated by Qigong(气功)

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It has been well known that Qigong keeping one in a self-controlling condition is a traditional method for promoting human health, prolong life and treating several kinds of diseases refractory to other remedies. As aplastic anemia (AA) is one of the disease poor responded to conventional therapy. Qigong was applied to a number of AA patients. Five principle methods of Qigong were practiced as follows: (1) Regulating respiration consciously to tonify Qi(气); (2) ameliorating the digestive function on tiptoe; (3) holding one's head for tranquilizing; (4) massaging the loins to nourish the essence; (5) at one's ease to regulate the circulation of Qi and blood. Besides according to the various conditions of different patients, some other Qigong methods such as for anti-inflammation and analgesia, diuretic, massage to viscera etc. were also applied for symptomatic treatment. In authors' previous work by ABC immune enzymic assay, the authors have shown in most AA patients, their suppressor T cell (T_s) were significantly increased, the helper T cell (T_h) dropped resulting in a decreased ratio of T_h/T_s . The changes of T-cells subsets were investigated in 10 cases treated by Qigong. For the patients in Qigong therapy, their T_h and the ratio of T_h/T_s were greatly elevated than those without Qigong treatment ($P < 0.02$). In addition, T_s went down but not significantly in Qigong treating patients. Because the change of T cell subsets play an important role in the pathogenesis of AA, the reversion of the change by treating with Qigong may be a promising way for recovery of the AA patients.

(Original article on page 341)