

降糖中药片对气阴两虚型糖尿病患者 RBC—SOD、MDA、Ins、AchE 的影响

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摘要 降糖中药片有较好的降糖和改善血液流变性的作用。本文观察到该药在降糖的同时,还可提高红细胞超氧化物歧化酶(RBC—SOD)含量,抑制血清丙二醛(MDA)生成,降低红细胞乙酰胆碱酯酶(AchE)水平,和玉泉片组相比有显著差异($P<0.05\sim0.01$)。对血清胰岛素水平(Ins)无明显影响。提示降糖中药片既可改善糖代谢,还可影响自由基及乙酰胆碱酯酶的代谢。
主题词 糖尿病/中医药疗法 气阴两虚/中医药疗法
④ 降糖片

糖尿病患者以气阴两虚型最为多见,我们研制的降糖中药片具有益气养阴兼以活血的功效,经临床研究已初步证实能够降低血糖、血脂及改善血液流变性的作用^[1]。为探讨其作用机理,我们进一步观察了该药对血清胰岛素水平(Ins)、红细胞超氧化物歧化酶(RBC—SOD)、血清丙二醛(MDA)、红细胞乙酰胆碱酯酶(AchE)的影响。现将结果报告如下。

1 病例资料

根据 WHO 糖尿病诊断标准及祝氏等^[2]对糖尿病辨证分型标准,在糖尿病专科门诊选择气阴两虚非依赖胰岛素型糖尿病患者共 90 例进行观察。按 2:1 随机分为两组。治疗组 60 例,男性 16 例,女性 44 例;对照组 30 例,男性 13 例,女性 17 例。两组病程分别为 7.8 ± 4.8 和 8.3 ± 4.8 年(均值 $\pm$ 标准差,下同),年龄分别为 56.4 ± 7.5 和 57.1 ± 6.4 岁,空腹血糖分别为 11.44 ± 3.24 和 $11.12\pm3.78\text{mmol/L}$ 。

治疗组单用饮食控制者 11 例,用胰岛素治疗者 3 例,口服降糖药者 46 例;对照组分别为 6 例、1 例、23 例。治疗组合并高血压者 32 例,

合并糖尿病视网膜病变者 18 例,合并冠心病者 17 例,合并周围神经病变者 9 例,合并植物神经病变者 24 例;对照组分别为 10 例、14 例、6 例、4 例、12 例。

2 观察方法

2.1 服药方法:所有患者给药前停用一切中药 2 周,保持原来的饮食控制和降糖药物的用法、用量。2 周末空腹取静脉血测定观察指标。然后治疗组给予降糖中药片(由生黄芪、太子参、知母、草决明、黄连、川芎等组成),每次服 10 片(每片含生药 1g),每日 3 次。对照组给予玉泉片(为传统玉泉丸的改革剂型,由天津中药厂生产),每次服 8 片,每日 3 次。均为饭前半小时服用。治疗期间口服降糖药及胰岛素的用法、用量不变。疗程 2 个月。疗程结束复查观察指标。

2.2 观察指标及方法:(1) RBC—SOD:采用酶联吸附试验,SOD 彩色免疫板由海军总医院分子生物研究室提供。正常值为 $663.9\pm111.2\mu\text{g/g}\cdot\text{Hb}$ 。(2) 血清 MDA:根据硫代巴比妥(TBA)荧光法测定,正常值为 $1.58\pm0.3\text{nmol/ml}$ 。(3) AchE:采用改良法(即底物硫代碘化乙酰胆碱,受乙酰胆碱酯酶作用后,产生含巯基化合物,此化合物与二硫双硝基苯甲酸反应后形成黄色化合物,在分光光度计一定的波长下测其酶活性)。正常值为 $3.95\pm0.6\text{mm/g}\cdot\text{Hb}$ 。(4) 血清 Ins:采用放射免疫法。正常值 $4\sim16\mu\text{u/ml}$ 。

3 结果

附表示,用降糖中药片治疗后 MDA、AchE、FBG 显著下降,SOD 明显升高,对 Ins 则无明显影响($P>0.05$)。用玉泉片治疗后仅对 SOD 有上升作用,其余无明显影响。两组间比较除 Ins 外均有显著或非常显著性差异。

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附表 两组疗后各项指标改善情况比较

组别	RBC-SOD ($\mu\text{g/g. Hb}$)	MDA (mmol/ml)	AchE (mm/g. Hb)	Ins ($\mu\text{u/ml}$)	FBG (mmol/l)
治疗组					
治疗前	429 $\pm$ 129	2.44 $\pm$ 0.97	5.23 $\pm$ 1.11	5.28 $\pm$ 3.14	11.44 $\pm$ 3.24
治疗后	533 $\pm$ 112* Δ	2.04 $\pm$ 0.93* Δ	3.93 $\pm$ 0.99* $\Delta\Delta$	4.40 $\pm$ 3.26	8.98 $\pm$ 3.38* Δ
对照组					
治疗前	433 $\pm$ 99	2.49 $\pm$ 0.88	5.03 $\pm$ 0.87	5.59 $\pm$ 3.72	11.12 $\pm$ 3.78
治疗后	479 $\pm$ 103*	2.47 $\pm$ 0.92	4.92 $\pm$ 1.13	5.14 $\pm$ 3.45	10.35 $\pm$ 2.77

与治疗前比较 * $P<0.05$, ** $P<0.001$; 与对照组比较 $\Delta P<0.05$, $\Delta\Delta P<0.001$

4 讨论

自由基与糖尿病的关系已日益引起人们的重视。高浓度的单糖自氧化率增高使体内自由基产生增多,抗氧化酶的糖基化使自由基消除能力下降^[3],加之糖尿病患者体内存在高粘滞血症,血流缓慢,微循环灌注不足,组织缺氧,使糖无氧酵解增加,乳酸积累,细胞内 pH 值下降,溶酶体被激活,使线粒体等生物膜破坏,游离的不饱和脂肪酸增加,产生过氧化脂质^[4]。自由基所造成的脂质过氧化损伤,在糖尿病血管并发症的形成过程中起重要作用。笔者观察到糖尿病患者红细胞内超氧化物歧化酶明显下降,血清丙二醛显著升高,用降糖中药片治疗后有明显改善,提示该方可提高抗氧化酶的活性,抑制脂质过氧化,减少丙二醛的产生,抗自由基损伤。另外,本方在 SOD、MDA 改善的同时,血糖也有下降。所以降糖中药片改善自由基代谢的作用机理是直接消除丙二醛,增加 SOD 的含量,还是通过降低血糖使抗氧化酶非酶促糖基化作用减少,则有待进一步探讨。

红细胞乙酰胆碱酯酶反映迷走神经的功能,糖尿病神经病变(包括周围神经病变和植物神经病变)是糖尿病常见的并发症。治疗组中有 33 例患者确诊为糖尿病神经病变,其中 24 例为植物神经病变。目前有关植物神经介质的报道很少,且多限于动物。曾有人报道糖尿病患者 AchE 水平较正常人低,治疗后上升^[5]。本文的结果与之相反。文中病例 AchE 较正常人高,用降糖中药片治疗后显著下降,接近正常水平。这样可使乙酰胆碱分解减慢,有利于神经传

导及神经病变症状的改善。

体内胰岛素浓度的高低及敏感性的强弱都能影响糖代谢。用降糖中药片治疗后患者血清胰岛素水平无明显变化。提示该药降糖并非作用于胰岛素这一环节。可能与其消除自由基抑制胰岛 B 细胞损伤或增加周围组织对葡萄糖利用有关。

降糖中药片之所以能够具有改善糖代谢,抗自由基损伤及抑制乙酰胆碱脂酶的作用,一是由于符合中医辨证施治的原则,药证相符,二是由药物的药理作用决定的。方中黄芪、生地、知母都有调节血糖、改善微循环的作用。黄连具有抗乙酰胆碱酶而增强乙酰胆碱作用及抗肾上腺素样作用^[6]。黄芪、川芎等抗自由基损伤,某些有效成分可增强或活化参与阻断自由基损伤的酶系统^[7]。

5 参考文献

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ABSTRACTS OF ORIGINAL ARTICLES

Report on 212 Cases of Radio—thyroidosis Treated by TCM.

Lin Lan

For radio—thyroidosis, traditional Chinese medicine not only yields rather satisfactory effect, improves symptoms and signs, and lab parameters, but also strengthens body immunity. It also alleviates or eliminates adverse reactions when using western medications alone.

Author's Address: Guanganmen Hospital, China Academy of TCM, Beijing 100053

Key Words: Radiological injuries/complications Thyroidosis/etiology Thyroidosis/TCM therapy

(Original article on page 411)

Effect of Jiangtang (glucose—lowering) Tablet on RBC—SOD, MDA, Ins, AchE in Diabetes of Deficiencies of Both Qi and Yin.

Liang Xiaochun, Guo Saishan, Yang Jingxia, Wang Xiangding, Sun Yizhen, Zhang Yanhua, Shi Ze

This Tablet yields satisfactory result in lowering glucose and improving hemorheology. We have observed that, in addition to lowering of glucose level, it also elevates the content of RBC—SOD, inhibits the formation of MDA, and decreases the level of AchE. When comparison was made with that of Yuquan Tablet control group, the difference was significant ($P < 0.05 \sim 0.01$). Moreover, it exerts no influence on Ins. level, suggesting that Jiangtang Tablet not only improves glucose metabolism, but also affects metabolism of free radicals and acetylcholine esterase.

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Key Words:

Diabetes mellitus/TCM therapy Deficiencies of Qi and Yin/TCM therapy @ Jiangtang Tablet

(Original article on page 414)

Treatment of Liver Fibrosis in B—hepatitis by Differentiation of Syndromes and Its Relation with Changes in Biochemical Parameters.

Wu Jiageng, Zhang Lihuang, Deng Yinquan, Cai Weimin, Yu Qinpu, Liu Ronghua

In fibrosis of liver due to its inflammatory lesions, the HA, ADA, GST, are much higher than that of the normalcy. This abnormality occurs with increasing

severity in the order of type of liver stagnation and spleen deficiency, type of Qi—stagnation and blood stasis, type of accumulated heat and blood—stasis and the differences are very significant among these types. By treatment based on TCM differentiation of syndromes, liver function was improved, with the first 2 indexes dropped down, demonstrating that TCM is effective for liver fibrosis.

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Key Words: Hepatitis/TCM therapy liver/pathology treatment based on differentiation of syndrome

(Original article on page 416)

Severe Pancreatitis Treated by Integrated Chinese and Western Medicine.

Wu Wei, Wang Zengzhang, Li Naiqing

In severe pancreatitis, when oral and intravenous routes of administration are impossible, high retal dripping with Chinese materia medica and electrolyte equilibrium solution is a new corrective measure. The authors also explore various surgical approaches for treating this disorder.

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Key Words: Pancreatitis/therapy of integrated Chinese and Western medicine

(Original article on page 420)

Cysticercosis Treated with Alum—niter Tablet: Observation on 2750 Cases.

Chen Zhishui, Nie Zhiwei, Sun Qili, Wang Yunxiang, Chi Yong, Sun Jiujie, Lu Yao

The therapy includes 3 therapeutic courses, each lasting for 3 months. Results show that 762 out of 1250 cases of subcutaneous muscular type were cured, accounting for 61.7%, the total effective rate being 92.3%. While 649 (43.3%) out of 1500 cases of brain type were cured, the total effective rate being 90.7%. The rate of turning negative of blood antibody test was 69.5%, that of cerebro—spinal fluid 55.1%. For this tablet, the optimal therapeutic course was 3 courses.

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Key Words: Cysticercosis/TCM therapy @ Alum—niter Tablet

(Original article on page 422)