

北芪注射液治疗慢性肾炎对蛋白尿、肾功能及免疫功能的影响

上海第二医科大学附属瑞金医院内科 董德长 周令芳 侯国英

上海南市区卫生学校 陈金祥

上海免疫研究所 黄冬生

上海中医学院附属龙华医院免疫室 李培成 王连琴

内容提要 56例慢性肾小球肾炎患者使用北芪注射液一疗程后：肾病组：PHA-P、IgG、IgA明显上升，尿蛋白明显下降；肾炎组：PHA-P明显上升，尿蛋白明显下降；肾功能不全组：PHA-P、IgM、尿蛋白明显上升，血清Cr、BUN明显下降。表明北芪注射液有调节细胞免疫和体液免疫、降低尿蛋白、改善肾功能的作用。本药治疗尿蛋白的有效率为61.7%。

1982年7月起，我们使用北芪注射液治疗慢性肾小球肾炎（简称CGN），于用药前后进行蛋白尿、肾功能和非特异性细胞免疫、体液免疫的检测，观察北芪注射液在治疗CGN中对蛋白尿、肾功能和免疫的作用。

资料与方法

一、病例选择：按中华医学会1977年举办的“肾炎座谈会”上的建议标准，选择CGN患者56例分成三组：（1）慢性肾炎肾病型组（简称肾病组）：凡有大量蛋白尿（ $\geq 3.5\text{g}/24\text{h}$ 尿）、低蛋白血症（ $\leq 3\text{g}/\text{dl}$ ）、有或无高胆固醇血症均归入本组；共15例，男8例，女7例；年龄最小14岁，最大62岁，平均31岁；病程2年~15年不等。（2）慢性肾炎普通型组（简称肾炎组）：病程迁延，有高血压、蛋白尿、血尿均属本组；共29例，男17例，女12例；年龄最小13岁，最大50岁，平均30岁；病程2年~20年不等。（3）慢性肾炎肾功能不全组（简称肾功能不全组）：平均血尿素氮（BUN） $42.88\text{mg}/\text{dl}$ ，平均肌酐（Cr） $4.2\text{mg}/\text{dl}$ ；共12例，男7例，女5例；年龄最小25岁，最大58岁，平均40岁；病程4~12年不等。

二、观察指标：（1）24小时尿蛋白定量；（2）肾功能：BUN、Cr；（3）植物血凝素皮试（PHA-P）；（4）PHA淋巴细胞转移 ^3H 掺入试验；（5）腺嘌呤核苷诱导抑制试验（AISA）；（6）免疫球蛋白IgG、IgA、IgM；（7）补体C₃、C₄、CH₅₀；（8）B因子（ACH₅₀）；（9）循环免疫复合物-C_{1q}-微量酶连免疫吸附试验（CIC-C_{1q}-ELISA）；C_{1q}-结合试验（C_{1q}-BA）；聚乙二醇沉淀法（PEG-P）。

三、治疗方法：北芪注射液（上海中药一厂提供，2ml/支，含黄芪生药3g），2ml/天，肌肉注射，30天为一疗程；治疗期间不加用其它药物。

结 果

一、蛋白尿：疗效判定标准：1个疗程后，24小时尿蛋白定量 $< 200\text{mg}$ 者为显效；比治疗前下降20%为有效；反之，无效。肾病组（12例）：显效3例，有效6例，无效3例；肾炎组（25例）：显效9例，有效10例，无效6例；肾功能不全组（10例）：显效1例，无效9例。47例显效27.7%，有效34%，无效38.3%。总有效率61.7%。

三组中, 肾病组和肾炎组24小时尿蛋白明显下降; 而肾功能不全组却明显上升, 详见附表。肾功能不全组中有5例连续治疗50天后, 24小

附表 各组治疗前后尿蛋白(g/24h)的变化 (M±SD)

	肾 病 组	肾 炎 组	肾功能不全组
治 疗 前	6.07±4.55	1.61±1.32	4.34±5.73
治 疗 后	4.29±5.24	1.053±1.41	6.61±6.77
P 值	<0.05	<0.05	<0.05

时尿蛋白定量均值4.24g, 比治疗30天时的尿蛋白定量均值6.40g明显下降。

二、肾功能: 肾功能不全组一疗程后, Cr均值由4.2mg/dl下降为3.38mg/dl; BUN均值由42.88mg/dl下降为36.53mg/dl, 二者经统计学处理, 均有非常显著的意义($P<0.01$)。

三、非特异性细胞免疫检测的变化: (1) PHA-P(mm): 治疗后肾病组、肾炎组、肾功能不全组(顺序下同)的均值分别由治疗前的14.1、14.67、11.8上升为17.71、18.08、16.08, 经统计学处理有显著意义($P<0.05$)。 (2) PHA淋转³H掺入试验(cpm): 治疗前三组均值为88 800、76 500、69 496, 一疗程后为92 600、76 980、81 000, 但无统计学意义。 (3) AISA(%): 治疗前三组均值为3.5、4.53、4.67, 一疗程后为5.2、3.83、4.06, 无统计学意义。

四、体液免疫的变化: (1) 免疫球蛋白: 经治疗后, 肾病组血清IgG、IgA(mg%)分别由治疗前均值768.5、171.2上升为1160.3、205.3 ($P<0.05\sim0.01$), IgM无明显变化。肾炎组血清IgG、IgA、IgM治疗前后无明显差异, 肾功能不全组IgM(mg%)由治疗前均值106.9上升为160.13 ($P<0.05$), IgG、IgA无明显差异, 但在连续治疗3个月后, 有7例IgG、IgA均值由1039.7、144.9上升为1754.3、288 ($P<0.05\sim0.01$)。 (2) 补体: C₃、C₄、CH₅₀经治疗后虽有不同程度的上升, 但均无统计学意义。 (3) 免疫复合物: 我们应用C₁₀-ELISA法, C_{1q}-BA法及PEG-P法测定CIC, 除PEG-P法检测肾功能

不全组CIC均值上升外, 另两种方法CIC均值都下降, 但均无统计学意义。

讨 论

CGN发病与细胞免疫和体液免疫缺陷有关。通过本文免疫检测证实在CGN发病中有免疫调节紊乱, 使用北芪注射液治疗1个疗程后, PHA-P明显上升, PHA淋转³H掺入试验均值有一定程度的上升, 使淋巴细胞转化率有所提高^[1,2]。另外, 肾病组IgG、IgA显著上升; 肾功能不全组IgM明显上升, 连续治疗3个月后, IgG、IgA亦明显上升。在肾功能不全中, 由于毒素损害B细胞, 影响抗体的合成, 经北芪注射液治疗后最初IgM上升, 然后IgG、IgA亦上升, 提示北芪注射液具有调节体液免疫作用。

治疗过程中, 肾炎组和肾病组患者蛋白尿下降, 而肾功能不全组连续治疗50天后才显著下降, 同时肾功能亦改善。在肾小球肾炎中, 宿主不能很好地清除特异性抗原, 北芪注射液有促进机体免疫反应, 提高细胞免疫和体液免疫的功能, 改善机体对抗原的清除力, 使肾小球基底膜的损伤有所修复, 致尿蛋白下降、肾功能改善。通过以上的观察, 证实北芪注射液治疗慢性肾小球肾炎有一定疗效。

参 考 文 献

1. 常春燕, 等. 中药黄芪促进小鼠NK细胞活性同时诱生干扰素. 医学研究通讯 1982; 10: 5.
2. 张树一, 等. 北芪注射液治疗小儿哮喘时对机体免疫情况观察. 临床免疫与实验免疫 1980; 1(1): 22.

《中国民间疗法》即将发行

中国民间疗法源远流长, 饮誉世界。它具有简、便、廉、验的特点, 为中国人民所乐用。河南省中医中药研究所刘道清等, 为发掘祖国医学这一瑰宝, 在陈可冀、耿鉴庭、裘沛然诸著名专家指导下, 编著《中国民间疗法》一书, 收集民间疗法170余种, 治疗病症近千种, 资料翔实, 图文并茂。该书今年下半年出版, 估价精装7.50元, 平装5.00元, 欲购者请与中原农民出版社联系。

(李春生)

Changes in Proteinuria, Renal Function and Immunity after Treatment with Injection of North Astragalus membranaceus

Dong Dechang (董德长), Zhou Linfang (周令芳), Chen Jinxiang (陈金祥), et al

Renal division, Department of Medicine, Ruijin Hospital, Shanghai 2nd Medical University, Shanghai

56 patients of chronic glomerulonephritis divided into nephritic, nephrotic and renal insufficiency groups were treated with injection of North Astragalus membranaceus. One course of treatment consisted of 30 injections, each with 2 ml intramuscular per day. Qualitative and quantitative measurements of proteinuria, renal function test, non-specific cellular immunity PHA-percutaneous (PHA-P) test, PHA induced lymphocyte transformation H 3 test (PHA-Tr), adenosine induced suppression assay (AISA), serum IgG, IgA, IgM, C 3, C 4, CH 50, ACH 50 (factor B), CIC-PEG precipitating assay, C 1 q-ELISA, Clq binding assay, proteinuria in 24 h., Cr, BUN were measured before and after treatment.

Before treatment, PHA-P was evidently lower than normal controls, IgG and IgA were lower, and IgM was higher than normal in nephrotic group. In uremia IgG, IgA and IgM were all lower than normal. C 3 decreased in 36 / 56, factor B was reduced in 13 correlatively with C 3. CIC positive in Clq ELISA, C 1q BA and PEG-PA was 40.4 %, 40.8 % and 32.1 % respectively.

After treatment, PHA-P increased, CIC tended to decrease but without statistical significance, and IgG and IgA increased in nephrotic group after 1 course. Increase in renal insufficiency group was found after 3 courses of treatment. The complement system improved but without statistical significance. Proteinuria decreased in nephritic and nephrotic groups; increase in the uremic group was parallel to improvement of the renal function, and decrease was found with successive treatment after 50 injections. The total effective rate was 61.7 %.

Based on the above observation, injection of North Astragalus membranaceus can improve cell-mediated and humoral immunity, reduce proteinuria and improve the renal function. It has certain effects in the treatment of glomerulonephritis patients. (Original article on page 403)

Efficacy of the Heart Protecting Musk Pill in the Treatment of Unstable Angina Pectoris

Lu Guoqing (吕国庆), Dai Ruihong (戴瑞鸿), Gu Jiayun* (顾嘉韵), et al

Hua Shan Hospital, Institute of the Integration of TCM-WM, Shanghai Medical University *

Dept. of Int. Med., 1st Hospital of Shanghai Textile Industry Bureau, Shanghai

We have observed in an earlier study that Heart Protecting Musk Pill can improve myocardial ischemia on the 12 leads ECG immediately after the administration, normalizing the echocardiographic left ventricular wall motion disturbance and improving the ischemic heart in both globular and segmental left ventricular systolic performance. The present study was designed to confirm its anti-ischemia efficacy more strictly under the Holter ECG monitoring. 40 episodes of the ischemic ST segment depression among 15 hospitalized patients of unstable angina pectoris were observed. The results showed that the mean duration of the ischemic ST segment change was 8 ± 1 minutes in the medication group, 18 ± 2 minutes in the placebo group and 20 ± 3 minutes in the non-medication group with a significant difference between the former group and the latter two groups ($P < 0.01$). Among those meal-related ST segment ischemic changes, the level of the ST depression in the Musk Pill medication group (0.44 ± 0.11 mm) was significantly less than that in the placebo group (1.20 ± 0.10 mm) and non-medication group (1.30 ± 0.16 mm), ($P < 0.01$). Thus it was confirmed again the anti-ischemic efficacy of the Heart Protecting Musk Pill. Its effectiveness on the different types of angina pectoris and among the compensatory and failed pump circumstances would be studied furthermore.

(Original article on page 405)

A Study on the Effect of Shou Tai Pill (寿胎丸) in Treating Threatened Abortion

Zhu Jinfeng (朱金凤), She Yunchu* (余运初), Zhou Chuhua* (周楚华)

Gynecological and Physiological* Dept., Jiangxi College of TCM, Nanchang

A clinical and experimental study on the effect of Shou Tai pill (STP) with additional ingredients in treating threatened abortion was reported. Based on the principle of TCM, it was regarded that the kidney was the foundation of reproduction, a normal functioning kidney would keep the fetus to develop in uterus. So the authors suggest treating the threatened abortion with STP, a recipe to replenish the kidney. It consists of *Cuscuta chinensis*, *Codonopsis pilosula*, *Scutellaria baicalensis*, *Atractylodes macrocephala*, *Dipsacus japonicus*, etc. Of the 110 cases treated with STP, 106 cases (96.36 %) proved to be successful. Results obtained from the experimental study in rats showed that the mechanism of the effects of STP in treating threatened abortion appeared to be: (1) Inhibiting the contraction of myometrium; (2) Strengthening the luteotropic function of the hypothalamus-pituitary-ovarium; (3) Promoting the development of pregnant uterus by their estrogenoid activity. (Original article on page 407)