

痰喘净药理实验与治疗 慢性支气管炎 300 例疗效观察

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内容提要 本文报告了痰喘净治疗慢性支气管炎的药理实验和临床观察结果。药理实验采用小鼠酚红法、豚鼠组织胺引喘法、小鼠氨雾法分别进行观察,结果表明有明显的祛痰平喘作用。临床疗效观察在东北地区 12~1 月份进行,农村与城市二组结果均显示了明显的祛痰、平喘和消炎作用,其中喘息型疗效高于单纯型。

我所药理实验证明,黄柏果挥发油具有明显的祛痰、止咳作用,无平喘作用^①,临床效果与药理作用一致。苦参有平喘作用^②。本方——痰喘净,为黄柏果挥发油与苦参提取物组成。在痰喘净药理实验有效的基础上,于 1980 年 12 月至 1981 年 1 月,对 300 例慢性支气管炎病人进行了临床观察,疗效尚满意,特别是对喘息型。现报告如下。

材 料

药物组成:所用药物均由我所实验药厂提供。将新鲜黄柏果按水蒸气蒸馏法提得黄柏果挥发油。苦参浸膏是用 85% 乙醇回流提得。痰喘净胶囊含黄柏果挥发油 100mg,苦参浸膏 150mg。

药 理 实 验

一、祛痰实验:采用小鼠酚红法,取体重 25~30g 小鼠 32 只,绝食 15 小时,均分四组,灌胃给药。结果见表 1。

表 1 痰喘净对小鼠祛痰作用观察(酚红法) ($M \pm SE$)

组 别	鼠数	酚红浓度 $\mu\text{g/ml}$	%	P 值
对 照 水	8	0.4 ± 0.05	100	
苦参提取物 250mg/kg	8	0.52 ± 0.01	130	>0.05
黄柏果油 300mg/kg	8	0.77 ± 0.10	192	<0.01
痰 喘 净 550mg/kg	8	1.02 ± 0.045	225	<0.01

结果表明,在二批实验中,痰喘净均有明显的祛痰作用。痰强度大于单方组。

二、平喘实验:参照豚鼠组织胺引喘法,取体重 200~300g 的豚鼠,绝食 15 小时,按表 2 所示分组并灌胃给药。结果见表 2。

表 2 痰喘净对小鼠平喘实验观察

组 别	动物数	五分钟内止喘数	P 值
对 照 (4%吐温水)	8	—	
苦参提取物 250mg/kg	6	6	<0.01
痰 喘 净 550mg/kg	6	6	<0.01
对 照 (4%吐温水)	6	—	
黄柏果油 300mg/kg	6	—	>0.05

结果表明,在豚鼠组织胺引喘条件下,痰喘净与苦参提取物均有明显的平喘作用,黄柏果油无平喘作用。重复 2 次,结果一致。

三、镇咳实验:采用小鼠氨雾法,分五组,结果对照组、苦参提取物组、黄柏果油组、痰喘净组均无效,可待因组 (60mg/kg) 显效。

四、毒性实验:1. 小鼠急性毒性:按孙瑞元法测得小鼠 LD_{50} 为 $2.996 \pm 0.172\text{g/kg}$, ($d=0.95$)。2. 大鼠亚急性毒性:痰喘净以 550mg、1,100mg/kg 两种剂量灌 21 天时,未成年大鼠体重分别增长 53.9 和 41.1g/只。表明服用剂量增大时,体重增长见缓慢。谷丙转氨酶,血尿素氮,血常规及心、肝、脾、肺、肾组织学检查未见明显改变。

临床资料

一、一般情况：本组共观察 300 例，其中农村 200 例，城市 100 例。男 174 例，女 126 例。年龄 11~78 岁，40 岁以上 186 例(占 62%)。农民 137 例，工人 99 例，职员 64 例。病程 2~20 年。病情轻度 48 例，中度 145 例，重度 107 例；合并肺气肿 78 例(占 26%)；单纯性 186 例；喘息型 114 例。

二、观察方法：病例选择及疗效判定按全国 1979 年慢性支气管炎临床诊断与疗效判定标准修订草案。对其中 30 例在治疗前与疗程结束时检查血、尿常规，肝功能，心电图，胸透。受试者每次服痰喘净 2 个胶囊，每日 2 次。10 天为一个疗程，3 个疗程结束判定疗效并对显控率等数据进行统计学处理。观察期间不改变劳动、生活条件，停用其它止咳、平喘、消炎类药物。

三、结果

1. 300 例中临床控制 104 例(34.67%)，显效 93 例(31%)，好转 94 例(31.33%)，无效 9 例(3%)，显控率 65.67%，总有效率 97%。

2. 患者主要症状、体征与疗效：见表 3。

表 3 300 例主要症状、体征与疗效观察

症状体征	例数	临 控		显 效		好 转		无 效	
		例	%	例	%	例	%	例	%
咳 嗽	300	119	40	31	10	104	35	46	15
咳 痰	300	194	65	52	17	42	14	12	4
喘	114	78	68	20	18	11	10	5	4
哮 鸣 音	114	84	74	7	6	15	13	8	7

由表 3 可见。痰喘净对平喘、祛痰、消除哮鸣音作用明显，对止咳作用差。显控率 $P < 0.01$ ，差异非常显著。

讨 论

一、疗效分析：分型与疗效：单纯型 186 例，临控 74 例(39.78%)，显效 39 例(20.97%)，好转 66 例(35.48%)，无效 7 例(3.76%)，显控率 60.75%，有效率 96.24%；喘息型 114 例，临控 30 例(26.32%)，显效 54 例(47.37%)，好

转 28 例(24.56%)，无效 2 例(1.75%)，显控率 73.68%，有效率 98.25%。两型之间显控率 $P < 0.05$ ，差异显著。喘息型疗效优于单纯型。

疗程与疗效：三个疗程的显控率分别为 5%、37.33%、65.67%， $P < 0.01$ ，差异非常显著。疗程与疗效成正比关系，疗效随疗程延长而提高。这说明了药物的累加作用。

病情与疗效：病情轻度、中度及重度的显控率分别为 62.5%、70.34%、60.74%， $P < 0.05$ ，差异显著，中度病人疗效较好。

合并肺气肿与疗效：有肺气肿合并症者显控率 55.2%；无合并症者显控率 68.47%， $P < 0.05$ ，差异显著。

二、作用原理：祛痰：本组病例服药后咳嗽容易，痰量也逐渐减少，其祛痰作用主要是由于黄柏果挥发油直接作用于呼吸道粘膜的分泌细胞，减少了蛋白质的分泌，促进气管粘膜的纤毛运动，使痰液稀薄，易于咯出。此外，长期服用能减少呼吸道粘膜的杯状细胞数目，从而使痰液逐渐减少，症状减轻。

平喘：喘是喘息型支气管炎的主要症状，其主要原因是过敏反应。据报告苦参生物碱的平喘作用比氨茶碱强，氨茶碱第六小时平喘率是 55%，苦参在 80% 以上⁽²⁾。苦参碱能抑制变态反应及血清抗体产生，为此推测平喘作用可能与苦参降低血中 IgE 等作用有关⁽³⁾。痰喘净的祛痰平喘作用相得益彰，所以效果较单用平喘药为好，这是由于单用平喘药能使蛋白质分泌增多以致粘性增加，不利于祛痰。

消炎：临床观察痰喘净有消炎作用，30 例治疗后末梢有血白细胞下降，经 t 测验， $P < 0.01$ ，差异非常显著。药理研究证明黄柏果油有减轻气管、支气管嗜中性白细胞浸润的趋向，通过消炎加强了祛痰、平喘和止咳作用。

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The Effect of "Huo Xue Hua Yu" Drugs on Right Ventricular Function and Blood Rheology in Chronic Cor Pulmonale

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Injection of Radix Salviae miltiorrhizae was given intravenously to 26 chronic cor pulmonale patients (23 men and 3 women) aged 51.2 ± 5.4 years in average, after the subsidence of acute infection. Their right ventricular function and blood rheology were improved significantly as follows: PEP time reduced from 0.133 ± 0.018 second to 0.118 ± 0.017 second; RVET time increased from 0.292 ± 0.019 second to 0.324 ± 0.020 second; PEP/RVET ratio decreased from 0.460 ± 0.083 to 0.395 ± 0.084 ; Q-Z time reduced from 0.187 ± 0.014 second to 0.176 ± 0.016 second. The whole blood viscosity and red corpuscle electrophoresis were also significantly improved ($P < 0.05$).

The study shows that "Huo Xue Hua Yu" drugs or drugs with action to activate blood circulation and relieve blood stasis can increase the myocardial contraction and reduce the after load of the right ventricle. There is a positive correlation between PEP time, whole blood viscosity and red corpuscle electrophoresis. The increase of whole blood viscosity and hematocrit may increase the pulmonary arterial pressure. (Original article on page 220)

The Treatment of Chronic Bronchitis with Tan Chuan Jing (痰喘净) —A Clinical Study of 300 Cases and Pharmacological Experiment

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Tan CChuan Jing is a preparation consisting of volatile oil of Fructus Phellodendron amurense (黄柏果) and extract of *Sophora flavescens* (苦 参).

Phenol red tests revealed marked expectorant action of Tan Chuan Jing in mice. In guinea pig, the preparation showed evident spasmolytic action on tracheal spasm induced by histamin in vivo, but no antitussive effect was observed. LD₅₀ of the preparation was 2.969 ± 0.172 g/kg for mice; subacute toxicity tests showed that Tan Chuan Jing (po, 1 100mg/kg) delayed the growing of rats, but exerted no influence on routine blood test, CPT and BUN.

300 patients were treated with Tan Chuan Jing, each taking 2 capsules, two times a day during the coldest season. The patients treated with this preparation had a total effective rate of 97% with a prominent improvement rate of 65%. Tan Chuan Jing has marked expectorant, antiasthmatic and antiphlogistic effects, however, it has little antitussive effect. This preparation is applicable to both types of chronic bronchitis, simple and asthmatic, but it is more effective in treating the latter. Clinically, it showed no apparent toxic side effect.

(Original article on page 222)

The Compensative Effects of Chinese Drugs Invigorating Kidney or Spleen on Disturbed Ovarian Function of Adrenalectomized or Thyroidectomized Rats

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The weight of ovary and its binding capacity to ¹²⁵I-HCG of adrenalectomized adult female rats were significantly decreased as compared with the levels of sham-operation control rats. However, if the adrenalectomized rats were treated with Chinese drugs invigorating the kidney (Mankshood plus prepared Radix Rehmanniae) for five consecutive days, the weight of ovary and its binding capacity to ¹²⁵I-HCG returned nearly to the levels of sham-operation control group. If they were treated with Chinese drugs invigorating the spleen (Si Jun Zi Tang (四君子汤)) no effect was observed.

One month later the female rats were thyroidectomized, and those whose oxygen consumption was decreased by more than 30% were used for study. In these animals the weight of ovary, its specific capacity of binding ¹²⁵I-HCG, and the maximum ¹²⁵I-HCG binding (Bmax) were decreased as compared with the levels of the sham-operation control group, while the Kd value was increased. In those animals treated with Chinese drugs invigorating the kidney (Mankshood plus prepared Radix Rehmanniae, 1gm crude drug/100gm body wt.), the weight of ovary and the specific binding capacity to ¹²⁵I-HCG increased, the Kd value decreased and the Bmax slightly increased, therefore, the effects of thyroidectomy can be compensated.

The results obtained suggested that in adrenalectomized or thyroidectomized rats the function of HCG/LH receptor in ovary was decreased, which could effect the function of sexual gland. Chinese drugs invigorating kidney could improve the function of HCG/LH receptor in ovary, thus the responsibility of ovary to gonadotrophin was increased. This problem merits further study. (Original article on page 227)