

复方化瘀尿石汤抗炎有效部位的研究

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内容提要 将中药化瘀尿石汤中的挥发油和总黄酮酚酸性成分进行了分离,并以急、慢性炎症模型进行药理验证。结果表明总黄酮酚酸物和水提醇溶部位具有非常明显的抗炎作用($P < 0.001$),系本方抗炎活性成分(部位),挥发油的作用不明显。

复方化瘀尿石汤(简称尿石方)是我院泌尿科治疗上尿路结石症的有效方剂,它突破了中医传统的“清利”治则,运用“化瘀软坚”药物组方,从而明显提高了排石率和排石范围⁽¹⁾。该方疗效肯定业已通过鉴定,药理实验表明,该方具有防石、消除肾积水、抗炎、抑制结缔组织增生、增强输尿管蠕动等作用。本文报告抗炎有效部位的分离和研究。

实验材料

1. 尿石方由赤芍、川牛膝、乳香、没药、三棱、莪术、山甲、皂刺、金钱草等十六味药物组成,每剂 177g。各药均购自北京市药材公司。

2. 巴豆油系从巴豆中提取,为黄色透明液体;氯化可的松系北京制药厂出品;尿石方挥发油(部位 A)系采用蒸馏法提取,每毫升约为 1g 生药;尿石方总黄酮

酚酸物(部位 B)采用钙盐络合法提取分离⁽²⁾,按干重计算配成 10% 浓度,每毫升约为 100mg,折合成生药量为 2.38g。水提醇溶物(部位 D)采用水煎醇沉法制备。每毫升约为 3g 生药。

3. 实验动物:瑞士种小鼠,体重 25~30g;Wistar 种大鼠,体重 150g 左右。均系雄性。由本院动物房供应。

方法与结果

一、全方生药与汤剂的化学成份预试。

根据中医传统用药经验,把全方视为一个整体,按文献拟定的化学成份预试法原理,对本方原生药混合粉末和汤剂进行系统化学成份预试^(3,4)。结果表明,含有挥发油、黄酮类、有机酸、酚性物、三萜皂甙等成份,详见表 1。

表 1 尿石方及其制剂系统化学成份预试结果

	氨基酸	蛋白质多肽	糖类	还原糖	鞣质	三萜皂甙	醇式皂甙	黄酮类	树脂	内酯香豆精类	萜类	强心甙	生物碱	酚性物	有机酸	挥发油
全方药材	+	-	+	+	-	+	-	+	+	+	-	-	+	+	+	+
汤剂	+	-	+	+	-	+	-	+	-	±	-	-	±	+	+	+

注: + 为阳性; - 为阴性; ± 为可疑阳性

二、各分离部位对巴豆油引起的小鼠耳部炎症的影响^(5,6)。

将体重 25~30g 小鼠 40 只随机分为 4 组,每组 10 只。用混合致炎液(2% 巴豆油、20% 无水乙醇,5% 蒸馏水,73% 乙醚)涂于小鼠左耳前后两面,每鼠 0.1 ml,半小时后分别腹腔给药。隔 4 小时将动物断颈处死,在左右两耳相应部位以 9mm 打孔器打下圆耳片,立即用扭力天平称重。左右耳片重量之差为肿胀程度,以 $M \pm SD$ 表示之。结果表明总黄酮酚酸物具有非常明显的抗炎作用,见表 2。

三、不同分离部位对大鼠棉球肉芽肿的影响。

将体重 150g 左右的大鼠在轻麻下于皮下双蹊部各

埋入 10mg 无菌棉球 1 个,术后随机分组。2 小时后开始第一次给药,以后每日一次,剂量为每日每 100g 体

表 2 尿石方不同分离部位对鼠耳肿胀的抑制作用

组别	剂量	两耳重量差 (mg) $M \pm SD$	肿胀抑制率 (%)	P 值
生理盐水	0.5ml/只	11.28 ± 2.146		
氯化可的松	0.5mg/只	2.32 ± 1.280	79.43	<0.001
挥发油(A)	0.5ml/只	9.22 ± 3.380	18.26	>0.5
总黄酮酚酸物(B)	0.5ml/只	3.61 ± 1.913	67.99	<0.001

重1.4ml。7日后处死动物，小心剥出周围已包裹肉芽组织的棉球，在90℃烘箱中干燥1小时，分析天平称重，以 $M \pm SD$ 表示之。结果表明总黄酮酚酸物B和水提醇溶部位D具有非常明显的抑制作用，而挥发油A作用不够明显，见表3。

表3 尿石方不同分离部位对大鼠棉球肉芽肿的影响

组别	动物数 (只)	肉芽干重(mg) $M \pm SD$	P值
生理盐水	19	25.8421 \pm 6.2245	
挥发油(A)	19	23.2473 \pm 6.6467	>0.05
总黄酮酚酸物(B)	19	17.9736 \pm 5.5798	<0.001
水提醇溶物(D)	19	16.0263 \pm 3.4989	<0.001

小结与讨论

泌尿系结石，尤其是临床比较常见的含钙结石，表面结构多粗糙，长期刺激极易产生炎症、积水和粘连。本文通过植化分离及药理验证，结果表明尿石方总黄酮酚酸物对急、慢性炎症均有非常明显的抗炎作用($P < 0.001$)，重现性良好。这些成份在复方中含量

较多，系本方的抗炎活性成份。而尿石方挥发油的抗炎作用不十分明显($P > 0.05$)。尿石方水提醇溶物(含黄酮类、酚酸物、挥发油等成份)也显示有良好的抗炎作用($P < 0.001$)。这些结果可为今后剂型改革、设计提取工艺时参考。

中药复方化学成份异常复杂，药理作用广泛。本文仅对尿石方抗炎活性成份进行了初步研究，至于其它活性成份或同一成份兼有其它药理作用，以及抗炎活性成份的单体分离均有待今后进一步研究。

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中西医结合治疗耳廓撕裂一例

湖南湘潭市第三人民医院 左锦鸿

患者范××，女，23岁，因左耳廓被车床皮带撕裂半小时，于1984年12月25日下午4时30分急诊入院。检查：左耳廓撕裂处流血不止，撕裂线从左耳后乳突起始，向上通过耳轮顶至前面的三角窝，经耳甲腔穿过对耳屏处折向耳后乳突部。整个耳廓只留乳突部少量皮肤约1.0cm²面积未断，软骨暴露。立即局麻下清创止血，将耳廓撕裂处对位分层缝合。术后给予抗感染及支持疗法，中医治疗以活血化瘀、补益气血、解毒生肌为法，内服方剂：银花15g 连翘15g 公英15g 花粉10g 红花10g 当归10g 川芎1g 丹皮10g 党参10g 生芪30g 甘草6g，水煎服，一日1剂，共服25剂。术后5日，见缝合耳廓颜色暗红，稍肿胀，无出血，为促进患耳愈合，加用红外线照射，每日一次，每次20分钟，共照射21次。术后10日拆线，术后16日患耳廓色转红润，干燥无分泌物，表面结痂。中药续服前方，并加生地15g。术后20日患耳廓周围均愈合，触觉痛觉存在，痂皮用油膏软化后全部脱去，显出淡红色正常皮肤，耳廓全部愈合。

我们采用中西医结合方法治疗耳廓撕裂1例，未发生感染和畸形，组织成活较快，生长良好。

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三是加强国际交流。三中全会以来，我们曾派中西医结合人员去美国、日本、意大利、联邦德国、澳大利亚等国家讲学，1983年举办国际骨科学术会议，重点介绍中西医结合治疗骨折方面的学术成就。我们还接待了几十个国家近千人次的医生、学者来我市参观、考察、进修中西医结合项目。

四是办好杂志。《天津医药》把中西医结合定为刊稿重点；《天津中医》也包括中西医结合内容。人民卫生出版社出版的《中西医结合急腹症学》、《中西医结合治疗骨折》等著作，已成为中西医结合方面的重要著作。天津科技出版社也出版了一套中西医结合急腹症、骨科、皮肤科、呼吸病、妇产科等方面的十余种丛书，总结天津市中西医结合各种经验，与全国交流。

20多年来，我们深刻体会到，中西医结合对我国医学科学的发展起了重要推动作用，并日益为国际所瞩目，中西医结合的治疗经验为广大群众所欢迎，已深深扎根于群众之中。我们决心沿着中西医结合道路继续前进。“七五”计划中，我们将继续把中西医结合工作做为重点，结合天津市的实际情况，中西医结合工作要向“体系化”发展，使中西医结合各方面逐步形成较为完整的体系，从而开创中西医结合工作新局面，多出成果，多出人才。

Preliminary Study of Effects of Extract of *Codonopsis Pilosula* on Immunological Functions of Normal Mice and Immunosuppressed Mice Introduced by Cyclophosphamidum

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In this study the *in vitro* ^3H -TdR incorporation lymphocyte transformation test, the test of spleen cell mediated sheep red blood hemolysis quantitated spectrophotometrically, and hemagglutination titers test are practised. The paper reports the action of *Codonopsis pilosula* on immunological functions of normal mice and immunosuppressed mice introduced by cyclophosphamidum. The result shows that this extract has immunoenhancing action of humoral immunity and cell-mediated immunity on immunosuppressed mice introduced by cyclophosphamidum, but there is no apparent immunoenhancement action in normal mice.

The result coincides with the TCM theory "reinforcement is applied in case of deficiency", therefore it is considered that the extract of *Codonopsis pilosula* can enhance immunity of "deficiency symptom-complex" organism. (Original article on page 742)

An Observation of the Granulocytic Pregenitor Cells Affected by He Che Da Zao Wan (河车大造丸)

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Aplastic anemia patients, were generally treated with prescriptions or herbs which have effects to replenish the vital energy and essence of Kidney, i.e., "Bu Shen" (补肾, tonify the kidney). He Che Da Zao Wan (HCDZW) is one of the prescription commonly used. In order to see how aplastic anemia patients have a good response to Bu Shen herbs, HCDZW was injected hypodermically to a group of mice. Normal saline was given to another group of mice as control. The bone marrow granulocytic pregenitor cells or CFU-D of the experimental group assayed by the diffusion chamber technique, were significantly greater than those of the control ($P < 0.01$). HCDZW does affect CFU-D through some humoral factors. This observation throws light on TCM theory: "Bu Shen" promotes hemopoiesis. (Original article on page 739)

Pharmacological Studies of the Extract of *Equisetum Pratense* on Tolerance

Towards Myocardial Hypoxia in Animals

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The extract isolated from the herb of *Equisetum pratense* was found to be effective on cardiovascular system. The ip. with 10-15 g/kg of this extract prolonged the survival time of mice under normobaric and hypobaric hypoxia significantly, increased notably the tolerance towards myocardial hypoxia induced by isoproterenol in mice (under hypobaric and normobaric condition) and slowed down the oxygen consumption rate by 32.8% compared with the control group. When this extract was given intraperitoneally at dosage of 10 g/kg and 15 g/kg, the percentage of myocardial uptake of ^{86}Rb , as well as propranolol, decreased by 8.2% and 26.4% as compared with control group respectively. This indicates that myocardial blood flow was not augmented. After the ip. with 15 g/kg of this extract in mice, the increase of the cAMP content of myocardium and plasma by isoproterenol was checked significantly.

Experimental myocardial ischemia was reduced by iv. 1.5-3.0 g/kg of this extract as indicated by improvement of ECG. A widening of the QRS complex and a prolongation of the RR, PQ, and QT intervals on ECG was observed. The toxic dose and minimal lethal doses of this extract given intravenously to guinea pigs were found to be 24.4 ± 1.95 g/kg and 31.3 ± 1.7 g/kg respectively. (Original article on page 744)

A Study on the Active Anti-Inflammatory Constituents in a Chinese Decoction for the Dissipation of Urinary Stones

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The therapeutic effects of a Chinese traditional decoction Hua Yu Niao Shi Tang (化尿尿石汤) for the dissipation of the calculus in urological system have been recognized and identified. This decoction is composed of 16 herbs. On the basis of qualitative analysis, main chemical compounds—volatile oils, phenolic acids and flavonoids compounds, were isolated from this decoction, and subsequently the pharmacological experiments were carried out to observe the acute and chronic inflammatory reactions in mice and rats. These laboratory experiments have been repeated with similar results.

Our laboratory results indicate that the anti-inflammatory action of the mixture of flavonoids and phenolic acids as well as the ethanol soluble components of this decoction is quite satisfactory with statistical significance, while that of the volatile oils is not remarkable. (Original article on page 747)