

# 当归注射液治疗小儿病毒性肺炎的临床及实验研究观察

北京友谊医院儿科

阎田玉 侯安存 周光岩 龚明敏 李志敏 吴向宁

山西医学院电镜室 孙本韬

**内容提要** 本文报告采用当归注射液静脉滴注治疗小儿病毒性肺炎 30 例, 并与口服化痰汤对照比较, 结果两组症状、体征及各项检查的恢复和改善当归治疗组似优于对照组, 但统计学处理无显著性意义 ( $P > 0.05$ )。为了进一步探讨该药作用原理, 经动物实验研究表明, 当归注射液有改善和恢复家兔肺组织微循环的作用。

本文将中国医学科学院药物研究所提供的当归注射液用于治疗小儿病毒性肺炎, 并与中药化痰汤治疗进行对照, 同时作了动物实验研究。现报告于下。

治疗组入院时之平均病程为 4.4 天, 对照组为 5 天。两组的临床表现及实验室检查结果均大致相同。此外, X 线检查均以点片状阴影为多见, 仅 5 例为融合大片。

## 临床资料

将 1984 年 11 月~1985 年 4 月入院的患儿随机分为二组。治疗组用当归注射液, 共 30 例, 年龄 2 个月~ $2\frac{10}{12}$  岁。对照组 20 例, 口服化痰汤, 年龄 8 个月~3 岁。当归组 63.3%、化痰汤组 42.1% 的病例由病毒学检查证实为病毒性肺炎, 均以呼吸道合胞病毒为主。全部病例均有发热、咳嗽及肺炎体征。为了避免随机分组的偶然性, 我们将两组病情之严重程度进行了实际比较, 见表 1、2。

表 1 两组临床病情比较

		$T \geq 38^{\circ}\text{C}$	中、重度喘	中、多量湿罗音	心衰	入院病程(天)
治疗组	例数	23	11	23	14	4.4
	%	76.7	36.7	76.7	46.7	
对照组	例数	16	5	15	8	5.0
	%	80.0	25.0	75.0	40.0	

表 2 入院时实验室检查情况

	贫血	白细胞 $>10000$	DIC	呼衰	心电图异常	甲皱微循环异常
治疗组	30	15	10	5	6	16
对照组	14	6	8	6	2	12

注: 甲皱微循环异常以管袢瘀张、血流断续为多见, 心电图异常以 P-R 间期延长及 T 波改变为多见。

## 治法及结果

治疗组用当归注射液 (每支 20ml, 含生药 20g, 甘肃省兰州制药厂生产) 1 支加入 10% 葡萄糖 160ml、生理盐水 40ml 中静脉点滴, 每天 1 次, 疗程 7~10 天, 病情好转后改服其它中药。对照组口服化痰汤 (黄芪 15g, 鸡血藤 12g, 当归、赤芍、川芎、水蛭各 9g, 虻虫、丹皮各 6g), 疗程亦为 7~10 天。对少数疑有继发细菌感染或病情危重者, 加用了抗生素 (治疗组 10 例, 对照组 8 例), 与此同时, 酌情给予吸氧、超声雾化、强心等对症及支持疗法。诊断有 DIC 的 18 例中, 有 3 例用了肝素 (治疗组 1 例, 对照组 2 例)。

经治疗, 两组患者均痊愈出院。治疗组退热及肺部体征恢复正常的平均天数分别为 5.8 及 12.1 天, 对照组分别为 6.6 及 12.6 天。部分病例复查了 DIC 及甲皱微循环, 大部恢复正常。原有心电图异常者, 除对照组 1 例未恢复外, 余均恢复正常。此外, 部分病例复查了胸片, 完全恢复正常及无变化的每组各有 1~2 例, 其余均吸收好转。总之, 无论住院一周痊愈率, 还是各项指标平均恢复天数, 当归治疗组似优于对照组, 但经统计学处理, 二者无明显差异 ( $P > 0.05$ )。

## 实验研究

当归为活血养血中药,有活血化瘀作用已被临床证实,但当归注射液对小儿病毒性肺炎在体内作用机理还需进一步探讨,我们做了动物实验及电镜观察,以资与化瘀汤改善微循环的作用进行比较,便于选择用药。

一、方法:家兔40只,体重1.8~2.4kg,分为A、B两大组。每组均随机分为三组:对照组2只;麻疹活疫苗组8只,麻疹活疫苗加当归液组10只。疫苗组和疫苗加当归组,每兔均以麻疹活疫苗1/5支/kg体重由兔耳缘静脉注入(每支麻疹活疫苗加生理盐水5ml)。24小时重复一次。对照组注射等量生理盐水。疫苗加当归组动物在注射疫苗前15分钟静注当归液2ml/kg体重。A组所有动物均在51小时处死。B组按上述方法,给疫苗加当归组于第3天加注1次当归液,于第5天全部处死。均取出肺按电镜标本处置常规方法制成标本,用扫描电镜(JSM 35C)和透射电镜(JEOL-100CX)观察。

二、结果:(1)注射麻疹活疫苗组,动物肺泡毛细血管表现有明显超微结构变化。扫描电镜下,肺泡毛细血管充血、隆起、肺泡膈肿胀,肺泡内渗出红细胞。透射电镜下肺泡毛细血管内皮细胞肿胀,饮液泡减少;肺泡毛细血管内红细胞瘀滞,中性白细胞阻塞,血小板贴附于内皮细胞,内皮细胞肿胀,并见有水泡形成,间质内轻度水肿;内皮细胞形成大的水泡,突入管腔,造成管腔明显的狭窄,间质明显水肿。(2)疫苗加当归液组动物的肺泡毛细血管管腔内仅见有孤立游离的血小板,未见有血小板聚集现象。多形核白细胞和缟钱状瘀滞的红细胞亦少见,肺泡间质(或细胞间质)内水肿明显轻于疫苗组。5天后疫苗组比其51小时肺的改变亦减轻,但当归疫苗组较疫苗组改善更为明显。(3)生理盐水对照组均无显著变化。

## 讨论

我科多年来采用活血化瘀法则治疗小儿病毒性肺炎,取得较好疗效。以往主要采用化瘀

汤口服,实验证明其作用原理在于改善微循环<sup>①,②</sup>。为了减少中药口服困难,1984~1985年特观察用当归注射液治疗。同时建立了家兔麻疹活疫苗DIC模型及当归防治效的观察,结果疫苗当归液组血小板聚集率明显下降,生理盐水组无显著变化。两次疫苗组与疫苗当归组对照比较,凝血酶原时间、连续凝血酶时间、血浆鱼精蛋白副凝试验、血清鱼精蛋白副凝试验均有显著差异,初步证明当归注射液可阻止或减轻麻疹活疫苗家兔DIC的形成<sup>③</sup>。本文观察的病例甲皱微循环异常以管袢瘀张、血流续断为多见。用药后绝大多数随病情恢复而恢复或减轻。18例DIC病例,无1例血小板数下降,仅有3例用了肝素,其余未用肝素者亦恢复正常。说明活血化瘀中药是防治DIC的有效药物。

据报道,当归及其有效成分阿魏酸钠能明显抑制血小板5-羟色胺的释放,能增加血小板cAMP含量,可拮抗血小板TXA<sub>2</sub>样物质活性,对PGI<sub>2</sub>抑制血小板聚集活性有协同作用,可调节PGI<sub>2</sub>-TXA<sub>2</sub>的平衡失调<sup>④</sup>,本实验动物肺部病变改善及疗效较好,可能与当归注射液能减少血管活性物质的释放,减少多形核白细胞阻塞及红细胞栓塞、减轻水肿,从而改善微循环有关。

综上所述,我们认为当归注射液有以下作用:(1)改善微循环障碍,增加肺毛细血管血流灌注,增强肺的换气功能,减轻机体乏氧。(2)防止血小板聚集,从而减轻或防止DIC的发生。(3)减轻红细胞瘀滞和白细胞阻塞。(4)减轻肺泡毛细血管的损伤,从而减轻肺泡及间质水肿,有利于气体交换。

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## Curative Effect of Xiaoluowan (消癰丸) on Primary Tuberculosis in Adults

Na Xueming (那学明), Zhang Dunrong (张敦榕)  
309 Hospital of PLA

Based on the effective folk remedies, a recipe—Xiaoluowan (消癰丸) consisting of *Scrophularia nipponensis*, *Concha Ostreae gigas*, *Prunella vulgaris*, *Forsythia suspensa*, *Viola yedoensis*, *Ranunculus ternatus* 15 grams each, *Sargassum pallidum* and *Lycopi indici*, was prepared. It was used to treat 66 adult patients suffering from primary tuberculosis during 1971~1978. 31 cases were treated with Xiaoluowan alone (Group 1), 35 cases with Xiaoluowan and TNH (Group 2), and 62 cases with similar clinical conditions treated with HSP(INH, streptomycin, PAS) served as control. The result of treatment: Group 1, Group 2 and the control group, showed marked improvement in 10, 11, 20 cases, improved in 14, 22, 28 cases, ineffective in 7, 2, 14 cases and the total effective rates were 77.42%, 94.27% and 77.42% respectively. Group 2 showed a better curative effect ( $P<0.05$ ). The mechanism of Xiaoluowan remains to be further studied. Conclusion: Xiaoluowan was effective in treating primary tuberculosis especially used in combination with INH. It is also, safe, easy to prepare and convenient to take, with no side-effect, and therefore worth recommending.

(Original article on page 156)

## Short Term Observation in Treating Sputum Positive Tuberculosis with TCM-WM

Xiao Guifu (肖贵福), et al

Hubei Academy of Medical Sciences, Wuhan

Lifoding, rimifon and streptomycin were used every other day for 6 months as a short term treatment for 159 cases of sputum positive tuberculosis. Among them 66 were treated for the first time, and 93 have been treated previously. At the same time, traditional Chinese patent pills (reinforce the Qi to strengthen the resistance, and promote the blood circulation to relieve the stasis) was also being applied. At the end of the treatment, sputum negative rate of the initial therapy group was 96.77%, while the control group was 71.87%. The sputum negative rate of the previously treated group was 72.72%, and the rate of control was 39.53%. The checking of X-ray films showed that the absorption rate of the initial therapy group was 67.85%, worsening rate 3.57%, those of the control being 40.74% and 25.92% respectively. The absorption and worsening rate of the previously treated group were 50% and 5.26% respectively, while that of the control group were 13.51% and 45.94% respectively. From the beginning of the treatment till one year after treatment, the mortality rate of initially treated was 0, while the control group 17.14%. The mortality rate of the previously treated group was 4.35%, while the control group was 21.28%. The data mentioned above have been checked with  $X^2$  method, and showed significant difference statistically.

(Original article on page 158)

## Injection of *Angelica Sinensis* in Treating Infantile Pneumonia and Its Experimental Study in Rabbit

Yan Tianyu (闫田玉), Hou Ancun (侯安存), Sun Bentao\*(孙本韬), et al

Dept. of Pediatrics, Beijing Friendship Hospital, Beijing; \*Shanxi Medical College, Taiyuan

Fifty cases of infantile pneumonia mainly caused by respiratory syncytial virus were divided into two groups randomly. The first group consisted of 30 patients ranging from 2 to 34 months in age, and were treated with injection of *Angelica sinensis* in a dose of 20 gm/day by iv dripping for 7 to 10 days. The second group of 20 patients were treated with Hua Yu (化瘀 stasis relieving) Mixture. Before treatment, most of the patients showed microcirculatory disturbances in nailfold, 18 of them were complicated with DIC. Respiratory failure appeared in 11 cases, abnormal ECG was seen in 8 cases, and 38 cases showed patchy and spotlike shadow when they were examined with X ray. After treatment, all of the patients in both groups were recovered and discharged. There was no significant difference in the effectiveness of *Angelica sinensis* injection compared with that of Hua Yu Mixture. The effect of *Angelica sinensis* injection was studied experimentally in 40 rabbits. The rabbits injected with measles vaccine alone showed aggregation of platelets and neutrophils, the stasis of red blood cells in alveolar capillary, while those treated with *Angelica sinensis* injection showed very slight hemostasis and aggregation as well as edema in mesenchyma of lung. It was suggested that *Angelica sinensis* might improve microcirculation especially pulmonary microcirculation and therefore was effective in treating pneumonia.

(Original article on page 161)