

参附柴液与地塞米松对犬感染性休克合并DIC疗效比较

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内容提要 本实验观察了参附柴液对犬感染性休克合并 DIC 模型病理生理过程的影响。结果:与盐水对照组比较,中、西药组存活率显著提高(P 分别 <0.05 、 0.01),平均动脉血压(MAP)、血浆纤维蛋白原(FG)降低较慢(P 均分别 <0.05 、 0.01), β -GC及AT-III改变较小(P 均分别 $<0.01\sim 0.05$)。表明参附柴液能提高存活率,抑制DIC发展和稳定细胞膜。

关键词 参附柴液 休克 地塞米松 弥漫性血管内凝血

人参和附子是中医治疗厥脱证(休克)的主药,柴胡可解郁热、行气血。为了研究这三味药抗厥脱、解郁热、行气血的机理,我室用犬感染性休克合并DIC模型进行了研究,并和地塞米松作了比较,结果报道如下。

材料与方法

一、动物:取8~15kg健康杂种犬30只,雌雄不拘(雌性无孕),戊巴比妥钠静脉麻醉后随机分为盐水对照组、中药组、西药组。三组均由舌静脉注射 $O_{155}B_4$ 型活大肠杆菌(5×10^9 个/kg,菌种系北京生物制品检定所提供,活菌液由我院培养),3分钟内匀速注入。

二、药物:参附柴液由我院制备,用量为每次1ml/kg,内含北柴胡80mg,红参200mg,熟附子50mg。庆大霉素由广州白云山制药厂生产,批号为840608,用量为每次0.3万u/kg。地塞米松由福州制药厂生产,批号851017,用量为每次150mg/kg。在注射菌液前0.5小时,注射菌液后3、6小时,西药组静脉注射地塞米松,中药组则静脉注射参附柴液,在注射菌液后3、6小时两组都由静脉注射庆大霉素,盐水对照组同法注射等量的生理盐水。

三、观察指标:(1)注射菌液后48小时的犬存活率。(2)心率(HR)、平均动脉血压(MAP)、校正后Q-T间期(Q-Tc)、PEP/LVET。方法:左颈动脉插管,肝素局部抗凝,通过换能器与二道生理记录仪连接;动物四肢皮下插银针,通过导线与二道仪连接,同步记录动脉血压与I导联心电图。(3)血液学指标:在注射菌液前0.8小时和注射菌液后6小时从动脉

取血做下列指标:血小板计数(BPC),许汝和法;WBC总数;血浆纤维蛋白原定量(FG),双缩尿法;抗凝血酶III活性(AT-III),按Chocley-Panner法^[1]; β -葡萄糖醛酸酶(β -GC),Fishmar法;血糖(GS),改良邻甲苯胺法;血浆游离血红蛋白(PHb),苯酚丁法。

结 果

一、注射菌液后48小时的存活率:盐水组为30%(3/10),西药组为90%(9/10),中药组为80%(8/10)。与盐水组比较,西药组和中药组的存活率显著提高(P 分别 <0.01 、 0.05);中、西药组组间差别无显著性意义($P>0.05$)。

二、对血液动力学、心电图、心功能的影响:注射菌液后6小时,盐水组MAP显著降低($P<0.01$);HR、Q-Tc、PEP/LVET都有改变($P>0.05$)。与盐水组比较,注射菌液后6小时,西药组MAP改变较少($P<0.05$),其余3项指标各组间比较差异均无显著性意义($P>0.05$),见表1。

表1 各组血液动力学与心功能指标比较 ($\bar{x}\pm S$)

组别	HR (次/分)	MAP (mmHg)	Q-Tc (ms)	PEP/ LVET
盐水	164 \pm 70	72 \pm 20	365 \pm 70	0.45 \pm 0.08
西药	175 \pm 58	89 \pm 11*	350 \pm 55	0.42 \pm 0.08
中药	176 \pm 39	72 \pm 23	364 \pm 26	0.47 \pm 0.11

注:与盐水组比较,* $P<0.05$;各指标数据均为10只,下同

三、对血液学指标的影响：注射菌液后6小时，盐水组血小板计数、FG含量和AT-Ⅲ活性均显著降低（ P 分别 <0.05 、 0.05 、 0.01 ），表明发生了DIC。与盐水组比较，中、西药组FG、AT-Ⅲ改变较轻， P 分别 <0.05 、 0.01 。BPC的改变无显著性意义。注射菌液后6小时，盐水组WBC显著减少，PHb和 β -GC显著升高（ $P<0.01$ ），GS稍降低，而中、西药组 β -GC的改变较轻（ $P<0.01$ ），PHb、WBC和GS的改变差异无显著性意义（ $P>0.05$ ），见表2。

表2 各组注射菌液前、后血液学指标比较（ $\bar{x} \pm S$ ）

组别	AT-Ⅲ (占注菌前%)	FG	β -GC
		(g/L)	
注菌前		2.54 \pm 0.48	0.43 \pm 0.07
盐水注菌后	59 \pm 29	1.55 \pm 0.36	0.91 \pm 0.28
注菌前		2.30 \pm 0.16	0.40 \pm 0.11
西药注菌后	103 \pm 43*	1.95 \pm 0.21**	0.50 \pm 0.16**
注菌前		2.40 \pm 0.43	0.35 \pm 0.13
中药注菌后	112 \pm 43**	1.85 \pm 0.41*	0.37 \pm 0.17**

讨 论

以活大肠杆菌注入犬静脉，在注射菌液后5、90分钟，MAP两次降到60mmHg左右，且动物出现呼吸困难、四肢厥冷、舌下循环瘀滞；注射菌液后6小时盐水组血小板数、纤维蛋白原定量、AT-Ⅲ活性等显著下降，这说明我们复制的休克模型与中医的“亡阳厥逆”之证相吻合，并伴有明显的气滞血瘀症状。我们采用人参、附子补气、回阳、固脱，同时佐以柴胡疏肝解郁。近代研究表明，柴胡中的皂甙有显著的消炎、抑制病毒、抗自由基和稳定细胞膜的作用^(2,3)，所以把它与人参和附子联合应用治疗感染性休克优于以往常用的抗厥脱证（休克）要方——参附汤。

长期以来，人们认为人参和附子抗休克的机理是由于它们具有直接强心和升压作用⁽⁴⁾。但是本研究证

明，中药组在用药期间犬的HR、MAP、Q-Tc、PEP/LVET并无明显的改善，这说明人参和附子并无直接的强心升压作用。近年来有人报道，人参和附子可降低动脉血压、左室内压和左室内压上升的最大速率，使左室射血的张力时间指数减少，从而降低了心肌耗氧量⁽⁵⁾。由此可知，降低心肌耗氧量，提高心肌对休克时缺氧的耐受力可能是本方抗休克的原因之一。

大量资料表明，血小板计数、FG、AT-Ⅲ的变化是衡量DIC严重性的重要指标。国外有人报道，血液中AT-Ⅲ含量与DIC的死亡率有密切关系⁽⁶⁾。近年来国内许多研究发现，人参可抑制血小板聚集和抗凝血酶⁽⁷⁾。本研究证明了参附柴液可抑制血小板、白细胞和纤维蛋白原的减少及维持AT-Ⅲ的活性。这可能是本方抗休克和抑制DIC发展的重要原因。本室以往工作发现，注射菌液后盐水组 β -GC、PHb、丙二醛显著升高，而SOD、谷胱甘肽过氧化物酶显著降低，说明红细胞膜受损与氧自由基有关，中、西药组上述指标改变较轻，推论本方有抗自由基和稳定细胞膜的作用。

参 考 文 献

1. Chockey M, et al. An improved chemical assay for AT-Ⅲ heparin cofactor, Am J Clin Pathol 1980; 74:213.
2. 颜正华. 临床实用中药学, 第1版, 北京: 人民卫生出版社, 1984:91—93.
3. 李延利, 等. 长白柴胡中柴胡皂甙对小鼠实验性肝损伤保护作用的实验研究. 中医药学报 1988; 8(1):45.
4. 丁培林. 参附注射液治疗厥脱证临床疗效观察. 中医杂志 1988; 29(4):25.
5. 陈延西, 等. 人参茎叶甙血哇巴因LD100心功能和血液动力学的影响. 中药药理与临床 1988; 4(1):29.
6. Emerson TE, et al. Protection against disseminated intravascular coagulation. Circ Shock 1987; 21:1.
7. Matsuda H, et al. 人参的药理学研究. 国外医学·中医中药分册 1986; 8(2):39.

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unanimous. The cAMP level and the ratio of cAMP/cGMP decreased significantly while cGMP level increased significantly. Adenylate cyclase (AC) activity in the spleen reduced remarkably while cAMP-PDE activity had little changes. After the administration of YQJP, the symptoms of Spleen deficiency improved to normal extent. YQJP elevated the cAMP level, the ratio of cAMP/cGMP and AC activity while it lowered the cGMP level. The results showed that the changes of cyclic nucleotides level and the ratio of cAMP/cGMP were important targets of Spleen deficiency and that the action of YQJP followed the change of the ratio of cAMP/cGMP. The results of this study indicated that immunodepression of Rhubarb was due to depressing AC activity and reducing the ratio of cAMP/cGMP. The readjusting action of YQJP was concerned with AC system. This study supplied Spleen deficiency and YQJP with certain data in biochemical mechanism and pharmacological function. (Original article on page 672)

A Comparison Between the Therapeutic Effects of Ginseng-Aconitum-Bupleurum Injection and Dexamethason on Septic Shock Complicated with DIC Induced by E. Coli in Dogs

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In this paper, the authors report the therapeutic effects of Ginseng-Aconitum-Bupleurum (GAB) injection on septic shock complicated with DIC induced by intravenous injection of live E. Coli in dogs. The experimental results indicated that the survival rate at 48 h after intravenous injection of live E. Coli was 30% in saline group, 80% in GAB, 90% in dexamethasone (Dex) group. The BPC, WBC, FG, AT-III, β -GC, PHb were 82 ± 28 , 9.1 ± 5.9 , 1.85 ± 0.41 , 112 ± 43 , 0.37 ± 0.17 , 0.11 ± 0.07 respectively for GAB, 70 ± 37 , 6.7 ± 3.7 , 1.55 ± 0.36 , 59 ± 29 , 0.91 ± 0.28 , 0.12 ± 0.06 respectively for the saline group, 58 ± 33 , 6.3 ± 2.9 , 1.95 ± 0.21 , 103 ± 43 , 0.50 ± 0.16 , 0.13 ± 0.06 respectively for Dex. The BPC, WBC, FG, AT-III levels of the GAB group were significantly higher than those in saline group and were not significantly difference from the Dex group. The β -GC and PHb levels of the GAB group were significantly reductive than the saline group and were not significantly different from the Dex group. The results showed that the survival rate was higher, the DIC was inhibited and normal biomembranes were maintained in the GAB group.

(Original article on page 675)

Quantitative Chinese Pharmaceutical Study on Children Pneumonia

Treated by Pu Fuzhou (蒲辅周)

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By method of quantitative Chinese pharmacy, the author studied the children pneumonia cases recorded in two books, "Pu Fuzhou's Medical Cases" and "Pu Fuzhou's Medical Experiences". The rule of Chinese medicine used by Pu Fuzhou was probed preliminarily. It was a characteristic that Pu Fuzhou treated the children pneumonia cases by using Pinelliae Tuber, Exocarpium Citri Rubrum, Jujube and Radix Glycyrrhizae. But the rate of using Herba Lophatherum was less in pneumonia group than in non-pneumonia (contrast) group. According to the rate of overdose prescriptions, 11 Chinese herbal medicines used frequently in pneumonia group were classified into 4 sections. Only overdose rate of section B (Radix Glycyrrhizae and Peucedanum Decursivum Maxim) was correlated with various kinds of diseases. Referring to the compatibility of dosage of the two Chinese medicines used, there were positive correlation in 35 of 38 pairs, among them, $P < 0.05$ in 20; negative correlation in 3 of 38 pairs, among them, $P < 0.05$ in 1. It was revealed that in 18 of 38 pairs, in which no significant positive correlation was present, the dosages of Chinese medicine used by Dr. Pu varied with different degree of severity and kind of symptoms he treated.

(Original article on page 686)