生脉液对急性心肌梗塞患者左心室功能的影响

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生脉液已广泛用于治疗急性心肌梗塞伴休克、心衰的患者，并取得了较好的临床疗效[1, 2]。为了进一步了解生脉液对急性心肌梗塞左心功能的效应，并初步探索其作用原理，本文应用心脏收缩时相（Systolic Time Intervals；以下简称 STI）和心尖搏动图观察了生脉液对急性心肌梗塞患者左心室功能的影响，报告如下：

材料与方法

一、观察对象：1. 急性心肌梗塞组：急性心肌梗塞（以下简称 AMI）按照 1979 年全国冠心病座谈会制定的标准诊断。病例选自我院冠心病监护病房住院48小时内心电图为窦性心律，无房室、束支传导阻滞者，共22例。其中男性 15 例，女性 7 例，年令43～90岁，平均63.8 岁。梗塞部位：前壁 5 例，前间壁 6 例，下壁 6 例，下壁及正后壁 4 例，高侧壁 1 例。中医辨证按 1980 年全国冠心病辨证论治座谈会的参考标准进行，属心阳虚、心血瘀阻 3 例，气阴两虚、心血瘀阻 6例，心气虚兼心血瘀阻 12 例（兼有痰阻 3 例）。合并心力衰竭 7 例，心源性休克 3 例。2. 正常人组：30名，经询问病史、体检、心电图、胸透未发现心血管及其他器质性病变者，其中男性 18 名，女性 12 名，年令 40～60岁，平均年令 46 岁。

二、记录方法：用 RM-45 多导生理记录仪记录，纸速 100mm/sec。心电图在肢体导联中选择Q 波明显者，在左侧颈动脉搏动明显处放置 TE-112S 压力脉波换能器，以自制塑料支持架固定，记录颈动脉搏动图；心尖搏动图和心音图取轻度左侧卧位（部分患者取仰卧位），在心尖搏动最强处，放置 TK-211S 型心尖搏动一心音换能器（时间常数为 2 秒）。所记录图形大多在自然呼吸状态下进行；少数波形不稳定者在呼气末记录。记录前所有图型在萤光屏下监视，至满意图型出现时开始描记。检查记录过程中，患者体位及换能器位置不动。

三、给药方法：用本院制剂室所制的生脉液 10ml（内含红参 1g，五味子 1.5g，麦冬 3 g）加 10% 葡萄糖 10ml，缓慢静脉推注。静注前及静注后一小时分别描记一次，并测定血压。

四、指标测量、计算方法及分析项目：

1. 心率（HR）：以心电图 R-R 间隔计算。

2. 电机械收缩时间（QS_2），从心电图的 Q 波起点至第二心音主动脉瓣成分起点的时间。

3. 机械收缩时间（MST）：从第一心音高频成分起点至第二心音主动脉瓣成分起点的时间。

4. 左心室射血间期（LVET）：从颈动脉波上升支起点至颈动脉波切迹的时间。

5. 射血前期（PEP）：QS_2 减 LVET。

6. 等容收缩期（ICT）：MST减LVET

7. 等容舒张期（IRP）：第二心音主动脉瓣成分起点至心尖搏动图O 点的间期。

8. 快速充盈期（RF）：心尖搏动图 0 点至 F 点间期。

9. 缓慢充盈期（SF）：心尖搏动图 F 点至下一个心动周期心尖搏动图 a 波起点的间期。

10. a/H：心尖搏动图 a 波的垂直高度占收缩波高度的百分数。

11. 计算 PEP/LVET，LVET/ICT，SF/RF 值。

12. 心肌氧耗量（MVO_2）：按 Richard 法计算。

$$MVO_2 = 0.18(SBP \times HR \times 10^{-2}) - 11.54。$$

（单位：ml/100g^{心肌}/min）

结　果

静脉推注生脉液后对 AMI 患者的心脏舒缩间期等的影响见附表。

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附表 生脉液对 AMI 患者心脏舒缩间期等影响

组　　别	HR	QS_2	MST	LVET	PEP	ICT	IRP	SF	RF	PEP/LVET	LVET/ICT	SF/RF	a/H	SBP	DBP	MVO_2
正常人（均值±标准误）	71.5 ±1.6	383.8 ±3.5	331.7 ±3.3	280.1 ±2.9	104.5 ±2.5	51.6 ±2.3	112.5 ±3.3	222.3 ±1.9	77.1 ±2.8	0.37 ±0.01	5.8 ±0.32	2.8 ±0.3	8.3 ±0.8	121.8 ±3.8	79.5 ±2.1	4.33 ±0.79
AMI 患者用生脉液前	81.75 ±3.8	345.03 ±7.1	287.2 ±9.2	233.8 ±8.6	120.4 ±4	57.2 ±4.4	135.2 ±12.1	212.87 ±76.1	63.3 ±5.5	0.54 ±0.04	4.5 ±0.2	3.14 ±0.9	14.2 ±3	132.4 ±4.8	85.9 ±3.7	7.96 ±1.39
AMI 患者用生脉液后	78.6 ±3.5	356.01 ±7.1	291.5 ±8.9	243.4 ±8.3	112.6 ±3.8	51.0 ±3.3	142.2 ±10.4	233.3 ±61.8	68.1 ±5.5	0.48 ±0.2	5.1 ±0.4	3.49 ±0.8	13.4 ±0.3	129.1 ±4.6	84.8 ±3.2	6.66 ±1.24
用生脉液前后比较（P 值）	<0.01	>0.3	<0.05	<0.001	<0.001	<0.05	>0.4	>0.3	>0.5	>0.001	>0.01	<0.2	>0.5	>0.5	>0.2	>0.05

从表中可以看出生脉液注射一小时后，LVET 明显延长，PEP、ICT 明显缩短，PEP/LVET 比值减小，LVET/ICT 比值增大，静注生脉液前后相比，均有显著差异(P 值均<0.05)。其他如 QS_2、MST、IRP、SF、RF 也较用药前延长，a/H 减少，SF/RF 比值稍增大，但均无显著差异 (P 值均>0.05)。此外，心率较用药前显著减慢 (P<0.01)，而收缩压及舒张压较用药有下降，但无统计学意义。而 MVO_2 较用药前降低 (P<0.05)。考虑到心率影响，用 Bazett 方法对 LVET 进行心率校正后，也表明较用药前显著延长 (P<0.05)。

讨　论

AMI由于严重的急性心肌缺血引起某一部位心肌坏死，导致心肌收缩力、运动协调性、顺应性、每搏量及心输出量等心功能以及血流动力学方面的异常。AMI 时的 STI 改变，可因测定时距发病日期的早晚、梗塞范围的大小，病情的轻重以及既往病史的差异(是否有过心肌梗塞、长期高血压、原发性心肌病等) 而有所不同。有人认为 AMI 初期由于儿茶酚胺分泌增加，STI 可以“正常”或接近“正常”[4, 5]，也有认为这是由于 QS_2 的缩短，导致 PEP一过性的“正常”，实质上 PEP 仍然相对延长[6]。本文观察结果，AMI 患者推注生脉液前与正常人组相比，PEP 显著延长，LVET 显著缩短，QS_2 明显缩短，PEP/LVET 比值，也比正常人明显增加，此外 a/H 也明显增大。22 例 AMI 患者中 19 例 PEP/LVET 比值>0.37，提示 86%AMI患者有不同程度的左心室功能不全。

由于 STI、心尖搏动图的测定有较安全、较灵敏，重复性较好，可以反复进行等优点，我们观察了生脉液对 AMI 左心室功能的效应，结果表明，静脉推注生脉液一小时后，PEP，ICT 明显缩短，LVET 显著延长，PEP/LVET 减小，LVET/ICT 增大。文献证明，不论何种原因造成的左心功能不全，均有不同程度的 PEP 延长，LVET 缩短，以及相应的 PEP/LVET 增大，至于 PEP 的延长几乎完全可以归因于等容收缩时左室压升高速率 (dp/dt) 的降低，AMI 时 LVET 的缩短，是由于与每搏量，心输出量的减少相关[7]。生脉液推注后所引起的改变，说明左心室收缩力有所加强，从而使左室压升高速率(dp/dt)加速，每搏量，心输出量相应增加。由于心率在 110 以下时，PEP/LVET 与心率无关，对左心功能状态的判定较之单一指标更有价值(LVET/ICT 意义与此相似)，为此进一步证明生脉液对 AMI 左心室功能的改善。中国医学科学院心血管病研究所用核听诊器及 113^m 铟测定左心室功能时，观察到冠心病、心肌梗塞患者在静脉点滴生脉液后，左心室喷血比分较静点前也明显增加 (P<0.01)。

推注生脉液后心率显著减慢，而脉压无明显变化从而使心肌耗氧量明显减低、这显然对 AMI 治疗是有利的。当然，其效应还有待于进一步增强。

中医认为 AMI 大多有气虚血瘀的表现 (占70—80%)[8]。而心气虚又是其重要方面，生脉液含人参，麦冬、五味子为一方、共同发挥了益气、固脱、复脉、救逆的作用。

此外，本组患者中有 5 例死亡，其中 4 例的 PEP/LVET值都大于 0.59，提示 STI 对 AMI 的予后判断有一定帮助，与有关文献的分析大致相仿[9, 10]。

还应指出，由于 STI 是作功试验，AMI 范围的大小有时差异也很大，据文献报道大量检查 AMI 患者时，PEP/LVET 比值的范围很宽，和其他的心室作功的测量参数，如心排血量、左室 dp/dt 以及超声心

动图检查一样，与正常人往往有重叠现象[11]，本文 AMI 患者的 PEP/LVET 比值也是 0.32—0.91，与正常人也有交叉重叠，说明 AMI 患者就其左室作功，并不绝对一致，如有多指标参照，或许更加全面。

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消 息

中国中西医结合研究会筹委会扩大会议在京召开

——决定 1981 年 11 月召开成立大会和第一次学术讨论会

中国中西医结合研究会（简称研究会，下同）筹委会扩大会议于一九八一年二月二十日至二十三日在北京召开。卫生部崔月犁副部长、中医局张白宽副局长、中国科协学会工作部郑军同志分别在会议开幕时讲了话。筹委会负责人、中医研究院院长季钟朴同志致开幕词，他特别强调“研究会是为把西学中这支力量团结起来，但也要更好地团结中医、更好地团结西医，使团结成为我们的一面旗帜”，共同为创造祖国的新医药学派而努力奋斗。

经过出席代表的热烈讨论，会议作出了如下决议：

一、决定于一九八一年十一月份在北京（或天津）召开研究会成立大会。二、在召开成立大会的同时，举行全国中西医结合第一次学术讨论会。论文征集截止日期为一九八一年八月三十一日（据研究会《工作简讯》第 2 期，决定提前为八月十五日截止）。会议决定成立学术委员会对论文进行评审。学术委员会由23人组成，聘请邝安堃教授为主任委员，沈自尹、陈可冀、祝谌予为副主任委员。三、中国中西医结合研究会的组织、领导及章程（草案）修改问题，初步建议理事会由 55 人组成。

会议结束后，应各地代表要求，举行了一次座谈会，卫生部王伟副部长、中医局吕炳奎局长、中医研究院党委王恩厚书记等参加了会议。

treated with TCM (anti—MI mixture) and WM, and the even number cases (group B, 138 cases) were treated with WM only. There were no significant differences in age range, distribution of sex, and occupation between the two groups. All had the complication of hypertension and most of the cases belonged to the type of energy (Qi) deficiency and blood stasis according to TCM classification.

The main ingredients of anti-MI mixture are Salviae miltiorrhiza (丹参), Radix paeonia (赤芍), Curcuma Aromatica (郁金), Astragalus Membranaceus (黄芪), Codonopsis pilosula (党参), Polygonatum sibiricum (黄精). Besides the mixture for oral adminstration, intravenous agents were made from the first three drugs for circulation activation and stasis elimination, and from the last three drugs for strenghthening the energy (Qi气) and nourishing vitality.

A significantly higher incidence and mortality of the three major complications (cardiogenic shock, heart failure, and arrhythmia) were seen in group B than in group A. The mortality of cases within 24 hours after the onset and that of the advanced age cases were also markedly higher in group B. The therapeutical results indicate a certain role played by the anti—MI mixture in the prevention of the major complications. The results were confirmed in animal experiments. However, the hospital mortality was 7.2% for group A and 13% for group B, showing no significant statistical difference ($P>0.01$) which may probably be attributed to the small number of cases studied.

(Original article on page 10)

Effects of Sheng Mai Ye (生脉液) on Left Ventricular Function in Acute Myocardial Infarction

Liao Jiazhen (廖家桢), et al
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Simultaneous recordings of ECG, PCG, carotid pulse tracing and left apex cardiogram were obtained in 22 patients during acute myocardial infarction before and 1 hr. after intravenous application of Sheng Mai Ye (consisting of three Chinese herbal medicines, which reinforce vital energy). The results showed that 1 hr. after intravenous drip of Sheng Mai Ye, there appeared a significant increase of the left ventricular ejection time (LVET); a significant decrease in the pre-ejection period (PEP), the isovolume contraction time (ICT) and heart rate, and no significant change in arterial blood pressure was observed. The PEP/LVET ratio also decreared from 0.54 to 0.48 after intravenous Sheng Mai Ye ($P<0.001$). These findings indicate that the left ventricular function was improved and the oxygen comsumption of the myocardium might be reduced by intravenous application of Sheng Mai Ye in AMI patients.

(Original article on page 13)

Short-term Observations on the Therapeutic Effects of Qing-Huang Powder (青黄散) in 25 Cases of Chronic Granulocytic Leukemia

Zhou Aixiang (周霭祥), et al
Xi Yuan Hospital, Academy of TCM

25 cases with chronic granulocytic leukemia are treated with Qing—Huang powder (or tablets). It is composed of Indigo naturalis and Realgar with the ratio of 9:1. The dosage for remission induction is 6—14gm divided into 3 parts to be taken after meals thrice daily together with some decoctions. The dosage for maintenance therapy is 3—6gm a day. No cases examined were given parallel treatment with western medicine. According to the criterion for therapeutic effect set at the National Hematological Meeting in 1978, the complete remission rate of the 25 cases is 72% (18 cases) and the partial remission rate is 28% (7 cases). Therefore the remission rates are 100%. The side effects are nausea, discomfort in gastric region and diarrhea. A few cases have bloody stool, eruption, pigmentation etc.

(Original article on page 16)

Malignant Histiocytosis and Febrile Diseases without Chill Due to Latent Pathogenic Factors

Jiang Jianfu (蒋见复), et al
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This paper deals with the experience of the authors in treating malignant histiocytosis by applying TCM theory to the treatment of febrile diseases without chill and by using TCM and WM. 110 cases of malignant histiocytosis have been treated in the Zhongshan Hospital since 1958. 72 cases were treated by WM, of which one achieved partial remission and 71 proved non-effective. 38 cases were treated by combined TCM and WM, of which 3 achieved complete remission, 10 achieved partial remission and 25 proved non-effective. The three completely remitted cases heve survived, up to now, for approximately eight, five and one and a half years respectively. comparative results as shown in the table indicate that the remission rate of the cases treated by combined TCM and WM is significantly higher and the survival appreciably longer than those treated by WM only ($P<0.001$). The increase in the remission rate and the prolongation of the survival time are even more marked in the cases treated chiefly by applying the TCM theory of differentiating between signs and symptoms.

The authors hold that malignant histiocytosis, similar to febrile diseases without chill due to latent pathogenic factors, belongs to the category of febrile diseases according to TCM theory. From the view point of TCM, the mechanism of this disease is deficiency in the vital essence of "Shen" (肾, kidney according to TCM), latent fever and blood stasis. The basic principle in treatment is to reinforce "Shen" and replenish the vital essence, cool the blood and relieve blood stasis, and clear the fever, namely, nourish the vital essence and exorcise the organism of pathogenic factors.

(Original article on page 19)