

Traditional Chinese Medicine and Emergency Clinical Practice in China: History and Current

**Emergency branch of the China International Exchange and Promotion Association
for Medical and Healthcare.**

Wang Zhong
Chang Gung Hospital of Tsinghua University, Beijing

Wei Jie
Renmin Hosital of Wuhan University, Wuhan





Traditional Chinese medicine (TCM)

什么是中医学

依据全国科学技术名词审定委员会审定的名词，中医学，是以中医药理论与实践经验为主体，研究人类生命活动中健康与疾病转化规律及其预防、诊断、治疗、康复、保健的一本综合学科。



Based on Chinese medicine theory and clinical practical experience , study human health and life activities and disease transformation then to prevent, diagnosis, practice treatment , rehabilitate, and multidisciplinary health care



TCM... ..

- **Traditional Chinese medicine (TCM) has a long time history**

- More than 2,000 years ago, came out Huangdi Classic Medicine(Huang Di Nei jing **黄帝内经**). It gives a complete and systematic exposition to the subjects of : the relationship between human and nature, human physiology and pathology , the diagnosis, treatment and prevention of the diseases. It also uses the theories of yin-yang and the five elements to deal fully with the principles of treatment by differentiation of syndromes (**TDS 辨证论治**) , according to the climatic and seasonal conditions, geographical localities and individual constitution , taking the human body as an organic whole and taking the human body with the surrounding environment as well



TCM classical basic theories

- vital essence theory (精气学说)
- yin-yang theory (阴阳学说)
- five element theory (五行学说)
- visceral outward manifestation theory (藏象学说)
- qi-blood-fluid theory (气血津液)
- meridian theory (经络学说)
- etiology theory (病因学说)



TCM classical basic theories

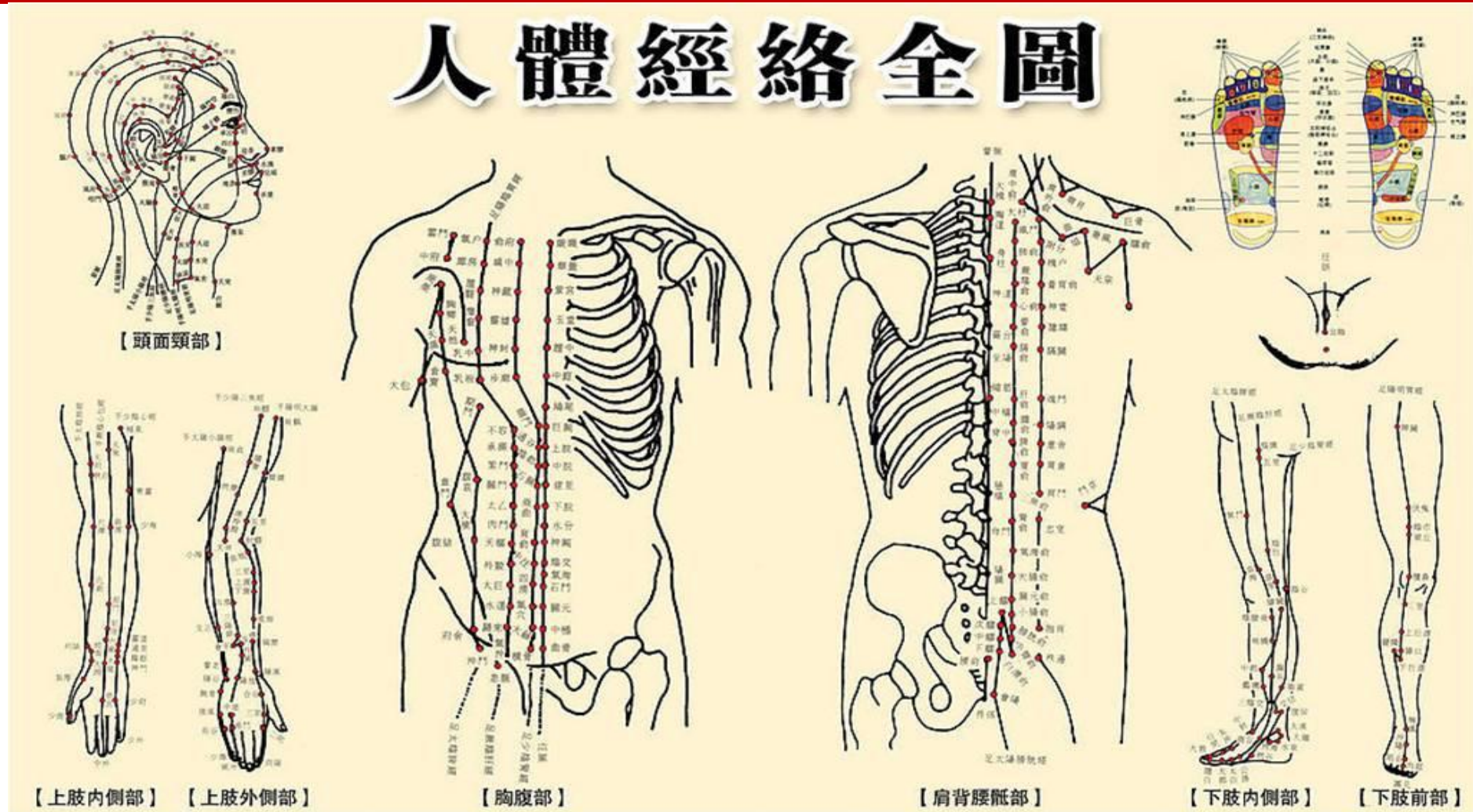
yin-yang

five element theory

The five elements refer to **wood, fire, earth, metal, water** and their **motions**. The theory resulted from ancient Chinese's observations and studies during their lives and working. Since the five element have been considered as basic substances to constitute the universe, so they are also indispensable for life.



Body Meridians Map



Theoretical writings



上医医未病之病

top grade doctor treat the patient who is not really sick

中医医将病之病

middle grade doctor treat the patient who is going to sick

下医医已病之病

inferior grade doctor treat the patient who has already sick



How do we do?

diagnosis

望 : Observation



中醫養生
望診

聞 : Auscultation-olfaction



中醫養生
聞診

問 : Inquiry



中醫養生
問診

切 : Pulse-taking and palpation



中醫養生
切診



Treatment

How do we do?

Physical Therapy

Acupuncture and
Moxibustion
Fire Cupping
Massage
Scrapping



acupuncture and moxibustion



fire cupp

massage



How do we do?

with traditional medicine

Single dose

Complex preparation





one or two times a day.....



TCM and Rescue..... in the past

用药之道 · 传统医学 编辑/严敏 jyy6750@163.com



中医也有急救方(3)

哮喘急性发作 的中医急救

□上海中医药大学医学博士、东南大学博士 董洪涛

哮喘发病较为紧急,并且患者发病时大多是在医院之外,如果不能及时抢救,数分钟的时间,就可能使脑细胞因缺氧而导致不可逆的损害。遇到这样的情况,我们应该怎么处理呢?

中医把哮喘分属“哮”和“喘”两个范畴。《医学正传》指出,“哮以声响名,喘以气息言”。哮必兼喘。

在治疗方面,中医耳穴治疗哮喘急性发作效果也是极为迅速的。中医认为,人体的五脏六腑、四肢百骸、五官七窍,甚至更小的部位,在耳朵上都有其相对应的部位。因此,中医传统疗法——耳穴贴压可以治疗多种疾病。临床上常采用王不留行、小磁珠、莱菔子等贴压相应耳穴。

哮喘发病急,情急之下可以用火柴棒按压几个相关耳穴,患者亦可自己按压,直至产生痛觉,以能耐受为度。

耳穴治疗是无痛苦、无毒副作用又简便有效的自然疗法,既适合于哮喘发作期的治疗,又适用于哮喘缓解期的预防。并且,耳穴对于急性痉挛、急性疼痛和急性炎症,往往有迅速的止痛、止痛等效果。因为哮喘发作属于平滑肌痉挛,可取耳穴的平喘、支气管、交感、肺、心

和神门等处(见图)。张树田写的《耳穴治急症经验纲要》和周尔晋的《火柴棒三部曲》,都十分重视耳穴的作用,并建议每个人都可以学些耳穴知识,于各种急性疼痛病以及急性痉挛都有功效。

再者,还可以用手指按压天突穴,在颈与胸骨结合处的凹陷部分,顺着颈部中间向下摸,到胸骨处有一个窝,就是此穴。哮喘急性发作时,患者自己或者他人用拇指勾住胸骨向下按,一按一松,刺激咳嗽,若吐出痰涎涎沫,往往可以迅速缓解哮喘症状。大凡是痰喘或者咳嗽过急,憋不过气来时,都可用此法进行治疗。有时老人会因一口痰憋住,面红颈粗,喘不过气来,可立即按压此穴以救急。

另有一法,针刺大鱼际的中间,亦极有效。可以用专业的针灸针,也可以用任何细物,比如缝衣针、牙签、小细钉子等,刺入后留针一会儿,即可以缓解哮喘发作。大鱼际是肺经所过,在此处针刺可以通宣肺气,缓解喉管以及支气管的痉挛,对于喘咳不止亦有效。

值得一提的是,哮喘急性发作时,患者出现憋气、缺氧、有痰咳不出,因而坐卧不宁、烦躁

不安,甚至有濒死感,这种情绪波动对哮喘者非常不利。家人应安慰患者,安定情绪,以减轻机体耗氧量;可以使患者取坐位或半坐位,以减少胸部呼吸肌的阻力,从而减轻呼吸感到通畅;时常轻拍其后背以协助排痰并及时清除鼻腔内分泌物,保持呼吸道畅通。另外,哮喘缓解期与急性期的治疗同样重要,可以配合其他的中医中药方法,以巩固治疗。

当然,患者平时应随身携带哮喘急性发作家庭治疗的常用药物,如 β_2 受体激动剂(如沙丁胺醇,商品名为托林气雾剂)、抗胆碱药(如溴化异丙托品,商品名为爱全乐)等以备不测。■



哮喘穴位图

- Emergency pain (急性疼痛)
- Convulsions (抽搐)
- Syncope (晕厥)
- Trauma (创伤)
- Asthma (哮喘)
- Fever(发热)
- and ...



The Current.....



- **TCM is a part of Chinese culture**
- **General medical education also involves in TCM**
- **Many people trust only TCM in the country**
- **Almost every city has a TCM hospital**
- **Almost every general hospital has a TCM department**




The Current.....

● China now has sixteen Chinese Medicine University

- Beijing
- Guangzhou...
- Shanghai ...
- Chengdu...
- Nanjing ...
- Heilongjiang ...
- Tianjin
- Shandong ...
- Hubei...
-

GREETINGS FROM THE PRESIDENT




Dear friends,

It is an honor for me to assume my responsibilities as the newly elected president of Beijing University of Chinese Medicine (BUCM). I'd like to give my respects and gratitude to all of you for your dedicated support for the development of BUCM and the advancement of Traditional Chinese Medicine (TCM).

Over the past five decades, BUCM has established itself as a top university directly under the Ministry of Education and has been appointed as a participant in the "211 Project" and "the 985 Project Innovation Platform", two national development projects committed to achieving first-rate education and scholarships that meet international standards. The university lays a solid scholastic foundation, stresses openness, values the academic legacy of the TCM canons, and gives equal importance to teaching reform and the development of academic disciplines. With coordinated development of teaching, research, clinical practice of integrative medicine and dissemination of TCM culture, BUCM has witnessed unprecedented dynamism in international exchange and cooperation in the field of TCM. It has become the home of tens of thousands of TCM professionals from 89 countries and regions around the world.

One challenge facing the dissemination of TCM culture is the reality of constant



Principle.....

“中西结合”

Chinese and Western medicine combined

“急则治其标，缓则治其本”

Deal with emergency symptoms, then with the basic cause

“立竿见影”与“循序渐进”

"Get instant results" and "Step by step"



*Bamboo poles erected in the sun,
immediately see the shadow. Metaphor
effective immediately*



Some of clinical mature prescription

- Angong Niu Huang Wan (安宫牛黄丸)
- Zixue San (紫雪散)
- Zhibao Dan (至宝丹)
- Shenfu Injection (参附注射液)
- Xuebijing Injection (血必净注射液)
- Tanreqing Injection (痰热清注射液)
- Xingnaojing Injection (醒脑静注射液)
-



Shenfu Injection (参附注射液)

- It can make for recovering yang, tonifying qi and stem
The injection was improved from traditional shenfu
polyjuice potion



Some of Shenfu fundamental and clinical research

Effect of Shenfu injection on ischemia-reperfusion injury of rat liver graft

Effect of Shenfu injection on ischemia-reperfusion injury of rat liver graft

Wei-Hua Zhu, Xi-Sheng Leng and Ji-Ye Zhu

Beijing, China

BACKGROUND: It is reported that Shenfu injection (an injection prepared from traditional Chinese medicines *red ginseng* and *aconite root*) can decrease the extent of ischemia-reperfusion injury to many organs, such as the heart and kidney. We therefore investigated the effect of Shenfu injection on ischemia-reperfusion injury of rat liver graft and its mechanism.

METHODS: Male Sprague Dawley (SD) rats were used as a model for isogenic orthotopic liver transplantation. Sixty rats were randomly divided into two groups (30 in each group). The recipient was given intravenous Shenfu injection immediately before the removal of the liver in the Shenfu group and normal saline of the same volume in the control group. At 3, 6 and 24 hours after the reperfusion, blood and hepatic tissue were taken for examination.

RESULTS: The levels of superoxide dismutase (SOD) and nitric oxide (NO) increased more significantly in the Shenfu group than in the control group ($P < 0.05$). The levels of serum liver enzymes, hyaluronic acid (HA), malondialdehyde (MDA), tumor necrosis factor- α (TNF- α), interleukin-1 (IL-1), endothelin-1 (ET-1) and liver cell apoptosis index were lower in the Shenfu group than in the control group ($P < 0.05$). Microscopic examination revealed that the morphological changes of hepatic tissue were more severe in the control group than in the Shenfu group.

CONCLUSIONS: Shenfu injection has protective effect on ischemia-reperfusion injury of rat liver graft. It inhibits the production of oxygen free radical and the activation of Kupffer cells, decreases apoptosis of liver cell, and improves microcirculation.

(Hepatobiliary Pancreat Dis Int 2006; 5: 205-209)

KEY WORDS: liver transplantation; reperfusion injury; Shenfu injection

Author Affiliations: Department of Hepatobiliary Surgery, Peking University People's Hospital, Beijing 100044, China (Zhu WH, Leng XS and Zhu JY)

Corresponding Author: Xi-Sheng Leng, MD, Department of Hepatobiliary Surgery, Peking University People's Hospital, Beijing 100044, China (Tel: 86-10-60114422x2003; Fax: 86-10-60114422x2003; Email: lengxs2003@yahoo.com.cn)

© 2006, Hepatobiliary Pancreat Dis Int. All rights reserved.

Introduction

Liver ischemia-reperfusion injury is a severe problem in transplantation. It causes up to 10% of early organ failures, and can lead to the higher incidence of rejection.^[1,2] In fact, decreasing the adverse effects of ischemia-reperfusion injury could increase the number of patients undergoing liver transplantation. But no treatment is available for prevention of hepatic injury reperfusion injury at present.

In the past few years, Shenfu injection (an injection prepared from traditional Chinese medicines including herbs) has been found to have protective effect on ischemia-reperfusion injury of many organs, including the intestinal tract,^[3] cerebrum,^[4] spinal cord,^[5] heart,^[6] and kidney.^[7] But whether Shenfu injection has the same effect on liver graft is unknown. Therefore we established rat model of liver transplantation to study the effect of Shenfu injection on ischemia-reperfusion injury of rat liver graft and its underlying mechanism.

Methods

Animals

Healthy male Sprague-Dawley (SD) rats weighing from 200 to 250 g were obtained from the Experimental Animal Center, Medical Department Peking University, Beijing, China. The animals were pair matched randomly with the heavy rats as recipients. The donors were fasted for 12 hours before surgery, but allowed free access to water. There was no limit of food and water to the recipients.

Assay kit

Endothelin-1 (ET-1) radioimmunoassay kit was purchased from Furei Bioengineering Co., Beijing, China. Hyaluronic acid (HA) radioimmunoassay kit was provided by Haiyan Medical Biotechnology Center, Shanghai, China. Apoptosis kit was purchased from Boehringer Mannheim Co., Germany.

Establishment of animal model and experimental design

Orthotopic rat liver was transplanted by a cuff anastomosis.

The American Journal of Chinese Medicine, Vol. 34, No. 4, 613-621
© 2006 World Scientific Publishing Company
Institute for Advanced Research in Asian Science and Medicine

Shen-Fu Attenuates Endotoxin-Induced Acute Lung Injury in Rats

Yanning Qian, Jie Sun and Zhongyun Wang
Department of Anesthesiology, The People's Hospital of Jiangsu Province
The First Affiliated Hospital of Nanjing Medical University
Nanjing 210029, China

Jianjun Yang
Department of Anesthesiology, Jinling Hospital, Medical School of Nanjing University
Nanjing 210002, China

Abstract: Sepsis is associated with the highest risk of progression to acute lung injury or acute respiratory distress syndrome. Shen-Fu has been advocated to treat many severely ill patients. Our study was designed to investigate the effect of Shen-Fu on endotoxin-induced acute lung injury *in vivo*. Adult male Wistar rats were randomly divided into 6 groups: controls; those challenged with endotoxin (5 mg/kg) and treated with saline; those challenged with endotoxin (5 mg/kg) and treated with Shen-Fu (1 mg/kg); those challenged with endotoxin (5 mg/kg) and treated with Shen-Fu (10 mg/kg); increase challenged with endotoxin (5 mg/kg) and treated with Shen-Fu (100 mg/kg); saline injected and treated with Shen-Fu (100 mg/kg). TNF- α , IL-6, and NF- κ B were investigated in the lung two hours later. Myeloperoxidase (MPO) activity and wet/dry weight ratio were investigated six hours later. Intravenous administration of endotoxin provoked significant lung injury, which was characterized by increment increase of MPO activity and wet/dry lung weight ratio, and TNF- α and IL-6 expression and NF- κ B activation. Shen-Fu (10, 100 mg/kg) decreased MPO activity and wet/dry weight ratio and inhibited TNF- α and IL-6 production, endotoxin-induced NF- κ B activation. Our results indicated that Shen-Fu at a dose of higher than 10 mg/kg inhibited endotoxin-induced pulmonary inflammation *in vivo*.

Keywords: Endotoxin; NF- κ B; TNF- α ; Lung; Shen-Fu; Rats.

Introduction

Acute respiratory distress syndrome (ARDS) is a common, devastating clinical syndrome of acute lung injury (ALI) that affects both medical and surgical patients. Until recently,

Correspondence to: Dr. Yanning Qian, Department of Anesthesiology, The People's Hospital of Jiangsu Province, No. 300 Guangzhou Road, Nanjing 210029, China. Tel: (+86) 25-8396-1253; Fax: (+86) 25-8480-6839; E-mail: yanning.qian@yahoo.com.cn

ARTICLE IN PRESS

American Journal of Emergency Medicine (2013) xxx-xxx

Contents lists available at ScienceDirect

American Journal of Emergency Medicine

journal homepage: www.elsevier.com/locate/ajem

Original Contribution

Effect of Shenfu on inflammatory cytokine release and brain edema after prolonged cardiac arrest in the swine

Xiaomin Hou, Chunsheng Li*, Wei Gu, Zhijun Guo, Wengeng Yin, Da Zhang

Emergency Department of Beijing Chaoyang Hospital, Capital Medical University, Chaoyang District, Beijing, China

ARTICLE INFO

Article history:
Received 6 February 2013
Received in revised form 7 March 2013
Accepted 9 March 2013
Available online xxx

ABSTRACT

Objective: Shenfu injection (SFI), a traditional Chinese formulation, has been confirmed to be protective against brain during ischemia and reperfusion injury. In this exploratory study, we investigated the action of SFI in regulating the inflammatory response and brain edema after cardiopulmonary resuscitation.

Methods: After induction of simulated ventricular fibrillation (VF), pigs in the cardiopulmonary resuscitation group (n = 24) received a central venous injection of either SFI (SFI group; 1.0 mL/kg), epinephrine (EP group; 0.02 mg/kg), or saline (SA group). Levels of proinflammatory tumor necrosis factor- α and interleukin-6 were measured using enzyme-linked immunosorbent assay at 0.5, 1, 2, 4, 6, and 24 hours after return of spontaneous circulation (ROSC). Surviving pigs were killed 24 hours after ROSC, and the brains were removed for electron microscopy. Western blotting and quantitative real-time polymerase chain reaction analysis.

Results: Compared with the EP and SA group, SFI decreased the levels of tumor necrosis factor- α and interleukin-6 in serum and the brain ($P < .05$) and decreased the expression of nuclear factor- κ B and aquaporin-4 messenger RNA in the brain ($P < .05$). Shenfu injection also inhibited the expression of nuclear factor- κ B, matrix metalloproteinase-9, and aquaporin-4 protein after ROSC ($P < .05$). Observation of brain tissue ultrastructure showed that injury was alleviated in the SFI group compared with the SA and EP groups. Conclusion: Our exploratory experiments demonstrated that SFI reduced cerebral damage in a porcine model of VF, which may be related to suppression of the inflammatory reaction and decreased brain edema after ROSC.

© 2013 Elsevier Inc. All rights reserved.

1. Introduction

It is estimated that 51% of cardiopulmonary resuscitation (CPR) coroners' patients will develop severe brain damage [1]. There is clinical evidence that early drug treatment can improve neurologic function and survival after discharge from CPR [2]. For example, prehospital epinephrine (EP) use during CPR is considered beneficial [3]. However, numerous studies have shown that EP also is associated with increased myocardial dysfunction [4] and disturbed cerebral microcirculation [5] after cardiac arrest (CA).

After CPR, the systemic inflammatory response is considered an important post-CA syndrome [6] because immune dysregulation can enhance neuronal damage after successful CPR [7]. Expression of aquaporin-4 (AQP4) in the cerebral cortex is up-regulated after CA [8], whereas expression of matrix metalloproteinase 9 (MMP9) protein and messenger RNA (mRNA) and water content were reported to be

increased in brain tissue after CPR in pigs [9]. These data suggest that CA can cause cytotoxic and vasogenic cerebral edema.

Brain injury after CPR involves a complex array of signaling mechanisms. Thus, drugs that target multiple pathways have great potential for neuroprotection after CPR. Shenfu injection (SFI) is a well-known traditional Chinese herbal medicine containing ginseng (*Panax*, family: *Araliaceae*) and fu (Zhuo) (*Asarum*, family: *Marubaceae*). *Asarum* (Zhuo) (*Asarum*, family: *Marubaceae*), and was approved by the Chinese State Food and Drug Administration. A risk-control system for SFI has been constructed [10], and fingerprint technology has been used to ensure that the quality of SFI is consistent over different batches. Fingerprint technology refers to the use of spectroscopy and chromatography to obtain the characteristics of component groups, map or image, combined with computer technology to analyze information, thereby identifying the authenticity of drugs and the quality control of drugs [10]. Allergic reaction is the most serious clinical adverse drug reaction to SFI, whereas other adverse effects are mild [11]. The main active components of SFI are ginsenosides and ligustrin, which have been used in treating stroke for more than 800 years in China. Shenfu injection is one of the most commonly used traditional Chinese medicines for heart failure in China [12] and has been shown to reduce myocardial damage and

* Corresponding author. Emergency Department of Beijing Chaoyang Hospital, Chaoyang District, Beijing 100020, China. Tel: +86 010 6523 8031; Fax: +86 010 6523 8031.
E-mail address: liangsheng@163.com (C. Li).

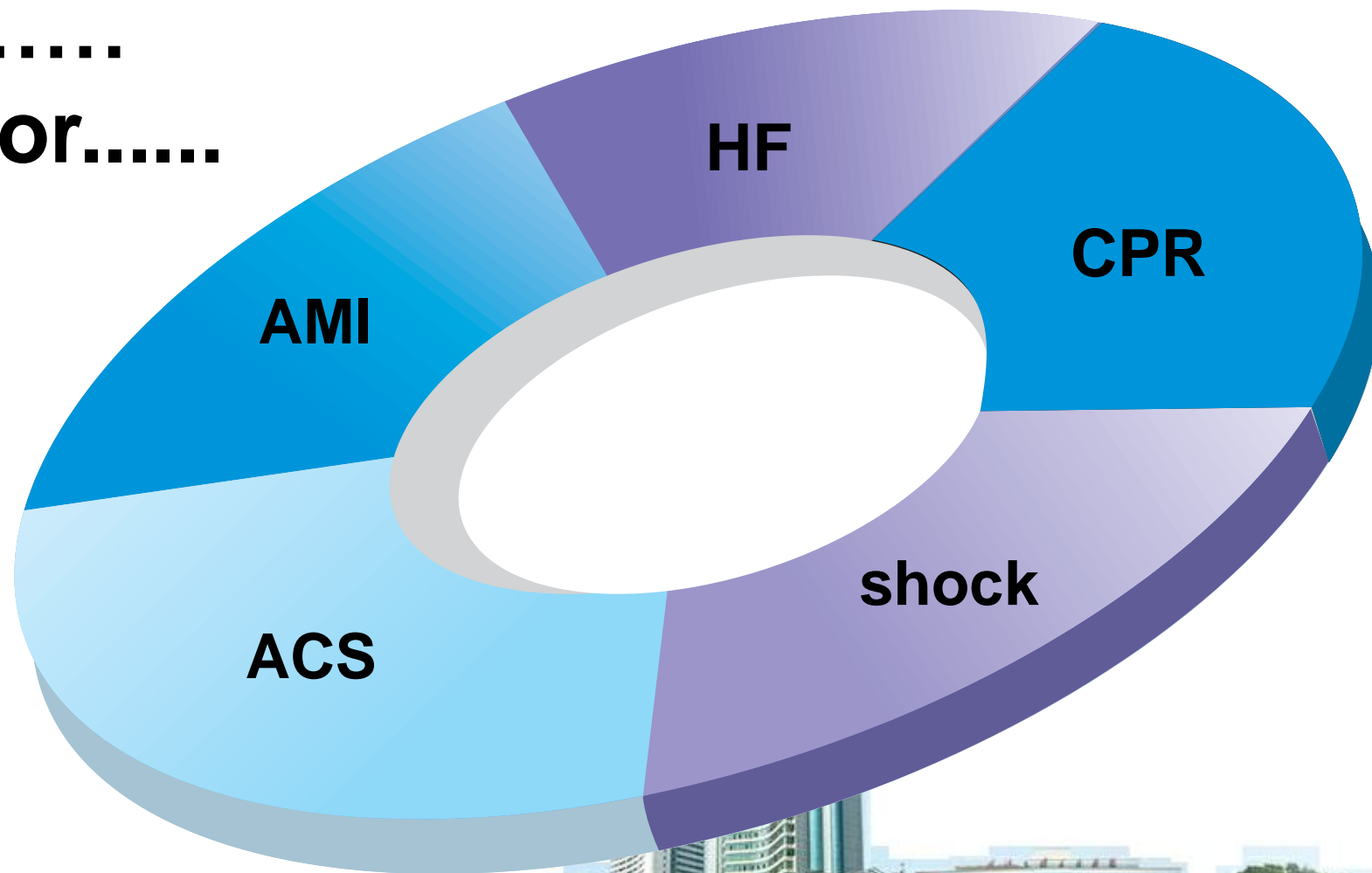
0735-6751/\$ – see front matter © 2013 Elsevier Inc. All rights reserved.
http://dx.doi.org/10.1016/j.ajem.2013.03.006

Please cite this article as: Hou X, et al., Effect of Shenfu on inflammatory cytokine release and brain edema after prolonged cardiac arrest in the swine, *Am J Emerg Med* (2013), <http://dx.doi.org/10.1016/j.ajem.2013.03.006>

《Multi-center clinical study of Shenfu Injection》

They are doing.....

We are waiting for.....



Questions

- Security...
- Effective...
- Biodiversity...
- Availability...
- Quality assurance...
-



Conclusion

- **TCM is a great treasure, the biggest characteristic of TCM is regarding the human body itself as an organic whole, it is worth developing and organizing for us, now and future**
- **There still leave over some questions that can not be fully explained among the field, even the system is really effective when using, what we need to do in the future is finding the material basis of TCM in different ways and different aspects**
- **Due to some historical reasons, TCM has its own limitations. We should prove the safety and effectiveness of TCM with the aid of modern research platform, removing its dregs, taking its essence**
- **Combining Chinese traditional and Western medicine together may be the best way to modernization for TCM**



