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Research Article

Can Acupuncture Reduce a Transcutaneous Risk of Infection? II; Non-Transcutaneous Acupuncture Recovered HFrEF

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Abstract

Acupuncture and moxibution had established in China and then transported among with neighbor countries. A digital evaluation had been scientifically tried to access with the method by Western techniques as CAM. However one of the absolute risk of acupuncture is not ruled out for a labile of infection by injection of needle transcutaneously. The purpose of this report was to try and show to prove free from the risk from transcutaneous injection of a needle. The purpose of this study was to apply to the patient who labile for infection by transcutaneous system. As a consecutive to the patient who had been in heart failure and reduced ejection fraction (HFrEF) was tried to applied with Japanese non-transcutaneous one.

This report concern elderly patient in chronical heart failure in contraction rate after western medications by extracorporeal circulation. The non-transcutaneous acupuncture and direct moxibution (mainly at the 26 meridian acupoints) were given to the patient for twelve months. The patient had been treated two times in a week for the relevant points of acupuncture and moxibution. The results proved to the potential increase of stroke volume by echocardiographic assessment, starting phase 33% and to 36, 42, 45% at the following phase, compare to the starting value before this therapy. The other control patients without this CAM therapy remain the same level. The biochemical indications and other factor for life-related diseases also regulated to normal level. In this report, for recovering the chronical defect of pumping capacity could up-regulated by Japanese acupuncture and moxbution at the chronical failure of the patient after two years of operation. Japanese type of acupuncture, non-transcutaneous noninvasive one, ruled out the risk of infections known to the high risk group in a diabetes mellitus around older age of patient.

Keywords: *Heart Failure and Reduced Ejection Fraction (HFrEF); Downsizing of Needle; Heart Failure; VHD; Contraction Rate; Acupuncture; Needle-Less Acupuncture; Non-Transcutaneous Acupuncture; Japanese Style; DM Risk Patient; Labile Infectious Patient*

Abbreviation

AP: Angina Pectoris; AS: Aortic Stenosis; AVR: Aortic Valve Replacement; CABG: Coronary Artery Bypass Grafting; HFrEF: Heart Failure and Reduced Ejection Fraction; MVR: Mitral Valve Replacement; MR: Mitral Valve Regurgitation; TR: Tricuspid Valve Regurgitation; TAP: Tricuspid Valve Plasty

Introduction

An increase of elderly patient made a serious issue in worldwide and even in Japan. During the past years, a progress had been made quantitatively advances for the life span, regarding next have to be a qualitative advance for coming decade. Oriental medicine is one of the choice for the recovery of the acquired immune deficiency with HFrEF [1-4]. At this point of view, the oriental medicine is one of the possibility to resolve this purpose. However, many of the elderly patient combined diabetes mellitus due to life-style related diseases, hesitating original style of acupuncture increase of a risk of an infection from the accupoint in the traditional style transcutaneous one [5-11].

So in this report, the elderly patient had been hospitalized by chronic heart failure and acquired immune deficiency due to HFrEF selected especially innovative trial as non-transcutaneous method of stimulation. The patient select for the rehabilitation by regular objective therapy for rehabilitation plus oriental medicine especially, Japanese type of noninvasive acupuncture and moxibustion [12-14].

In Japan as in the HF therapy, and the treatment concept has been changed from cardiac strengthen, diuresis and vasodilation to inhibition of neuroendocrine system activation and ventricular reconstruction. Although survival rate of HF patients increased obviously, the 5-year fatality rate of HF is still very high. Ventricular reconstruction plays a crucial role in the initiation and development of HF [17-32]. It has been widely accepted that neurosecretory system activation is a critical factor triggering the myocardial and mesenchymal remodelin.

Methodology

Subjects and Patient

Statistical Analysis

The data were expressed as mean +/− standard deviation. The WBC is number of cells, granulocytes and lymphocytes were shown as % of total leukocytes and adrenalin content was expressed by pg (pikogram/ml). Group comparison of data was performed by ANOVA and post hoc multiple test.

Results and Findings

Non-transcutaneous Japanese Acupuncture and Moxibution Up-regulated the Ejection Rate in the Ischemia-Reperfusion-Induced Heart Failure

Case Study in Valvular Heart Disease

Echocardiographic Analysis

On an extension of comparative study for down-sizing of acupuncture needle, a famous acupuncturist, Dr. Matsuo Arai innovated non-transcutaneous system for immune-depressive status of heart failure and reduced ejection fraction, HFrEF patient. By the echocardiographic analysis, the left ventricle function was evaluated by a Vevo 770 High-Resolution Imaging Systems (Hitachi Inc, Tokyo, Japan) with a 17.5 MHz linear array transducer, and the following parameters were measured in long axis view in left ventricular: left ventricular end-systolic dimension (LVESD), left ventricular end-diastolic dimension (LVEDD), left ventricular end systolic volume (LVESV), left ventricular end diastolic volume (LVEDV), left ventricular ejection Fractions (LVEF), and left ventricular factional shortening (LVFS), the parameters was the average values of 5 cycles. (Figure 1 and Table 1).

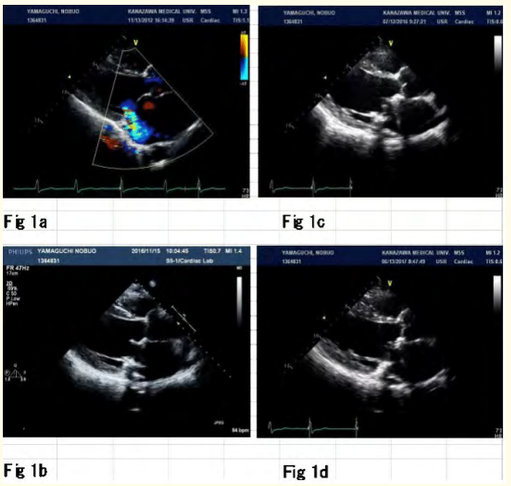

Figure 1: Ultrasonic Analysis for Construction Activity.

The patient who is 73 old male had been hospitalized first by dilated cardiomyopathy at June 2004, complaining difficulty of blessing. Since, the patient medicated by controlling the remaining of the lymph fluid in the lung, plus blood pressure and blood sugar revel due to type II diabetes mellitus at October 2010. Since then, patient operated by exchanging both Tricuspid valve and Mitral valve and medicated with western style as usual course of operation. The patient had a thin style of body and had low appetite from youth. The patient hospitalized twice by acute pneumonitis after the operation and medicated by antibiotics and recovered around three weeks. The heart rate and blood pressure was successfully stay around normal but did not recovered as contraction rate of

		Jan/2014	2015	2016	June/2017				2018
Patient	**History**	**OPE**			**JAM Trial ⇒ ⇒ ⇒ ⇒**				
		✓	✓	✓	0d	84d	152d	365d	
	Performance	2mets	2mets	2mets	2,	3,	4,	5mets	
Control Patient		A;4mets	5	4	4			4mets	
		B;3mets	3	3	3			3mets	
		C;4mets	4	3	3			3mets	
		D;4mets	5	4	4			4mets	

Table 1: *JAM Trial Protocol for This Report.*

the heart. Then the patient visited the Oriental Acupuncture Clinic just for Japanese type of acupuncture and moxibustion and had been treated about 26 accupoints. When the patient was hospitalized after valvular exchange operation, the systolic blood pressure was 145 mmHg and diastolic blood pressure was 74 mmHg. The pulse rate and body temperature were 73 beats 36C, respectively. The patient had no habit to smoke at all but small alcoholic every day. Fifteen year ago, he hospitalized first for respiration trouble due to the increase of lymphoid liquid in the chest. Since then he had medicated for hypertension and diabetes mellitus. Seven years before, he had changed his bulb of the heart due to the buck flush of the blood from his both bulb. After then, remarkable recovery had not been made as heart contraction rate. The patient had been treated two time within a week for the relevant points of acupuncture and moxibustion. The results proved to the potential increase of contraction rate, first phase 17.6% and 35% at the second phase, compare to the starting value before this CAM therapy (Table 2).

The biochemical indications and other factor for life-related diseases also regulated to the normal level. In this report, for recovering the chronical defect of pumping capacity could up-regulated by Japanese acupuncture and moxibustion at the chronical failure of the patient after four years operation. Japanese type of acupuncture, noninvasive one, ruled out the risk of infections known to the high risk group in diabetes mellitus around older age of patient who wish to avoid skinny invasion for TCM style of acupuncture.

Laboratory Findings		Days after treatment			
	Unit	Trial	Patient (73 years old, MR+TR)		
Factor		0d	84d	152d	365d
Stroke volume	ml	33	36	42	45
Ejection Fraction	%	17	20	23	24
LvDd/Ds	mm	43/36	57/51	57/50	57/49
CTR	%	66%	64%	60%	58%
		Control Patient 1 (86 years old, AP, CABG)			
Stroke volume	ml	66	75	68	65
Ejection Fraction	%	65	55	54	52
LvDd/Ds	mm	47/30	53/38	49/33	50/34
CTR	%	52%	60%	61%	61%
		Control Patient 2 (77 years old, MR+TR, MVR+TAP)			
Stroke volume	ml	56	70	67	68
Ejection Fraction	%	47	65	53	48
LvDd/Ds	mm	50/38	48/31	51/37	52/38
CTR	%	63%	66%	58%	62%
		Control Patient 3 (57 years old, Infectious endocarditis, MVR)			
Stroke volume	ml	60	47	64	43
Ejection Fraction	%	35	35	37	25
LvDd/Ds	mm	59/49	53/44	59/49	59/52
CTR	%	69%	66%	56%	62%
		Control Patient 4 (89 years old, AS, AVR)			
Stroke volume	ml	55	64	50	51
Ejection Fraction	%	57	48	51	49
LvDd/Ds	mm	46/32	52/40	46/34	48/35
CTR	%	80%	76%	77%	79%

Table 2: *Cardiac Function Displayed by Laboratory Findings.*

Discussion and Conclusion

In conclusion, treatment with Japanese type of acupuncture ameliorate myocardial fibrosis and ventricular reconstruction and thus improve cardiac function, which may attributed to enhancing the expression and activation of construction rate and other biochemical factor for nephrotic, hepatoprotective activities [33-41]. The impairment of cardiac systolic and diastolic function causes deficiency of blood and oxygen in whole body and subsequently accelerates HF process. About anti-infectious care for acupuncture, there are two major factors for infection [25,26]. One is for infectious treatment for the needle and sterilized with ethanol wattle. Either is incomplete for anti-infectious sense. The most cool system of non-transcutaneous system of Japanese/Arai Method. The author wish to popular this Japanese style of acupuncture in this field.

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Author's Contribution

Nobuo Yamaguchi (professor emeritus also at the institutions 4 and 5) study concept and design. Study implementation and surgical operation were managed by Shigeru Sakamoto and Yasuhiro Nagayoshi. Data were acquired by Daisuke Sakamoto and Takanao Ueyama. Study design for acupuncture competition was provided by Kenji Kawakita. They, along with all other authors, revised the manuscript for important content. All authors inspected and approved the final paper.

Disclosure Statement

The authors affirm that there are no conflict of interest and had no financial interest to the issue of this report.

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