

## Clinical Report 2 (Japan)

### *A Case in which Shakanzoto Proved Markedly Effective in a Patient with Arrhythmia*

Takao Namiki

Department of Frontier Japanese-Oriental (Kampo) Medicine  
Graduate School of Medicine, Chiba University

### Introduction

Arrhythmia is a medical condition that manifests as irregularities in the heart rhythm. It involves abnormal pulse rate and abnormal or irregular signal transmission. It is common for the patient to be aware of arrhythmia when it occurs, and for the irregular or intermittent beat to be detectable when taking the pulse at the radial artery, etc. However, there are also cases in which this condition involves other symptoms apparently unrelated to the pulse, such as chest pain or dizziness. When the patient is subjectively aware of palpitations, a characteristic symptom of arrhythmia, this awareness is most commonly experienced at the heart, on the left side of the chest, and sometimes in the abdomen. In some cases the condition is asymptomatic. On ECG, tachycardiac arrhythmia includes extrasystole, tachycardia, and atrial fibrillation, while bradycardiac arrhythmia includes sick sinus syndrome and atrioventricular block. Among these conditions, treatment with Kampo medicine is currently used in cases in which there is symptomatic arrhythmia and the patient is subjectively aware of palpitations.

In particular, Kampo medicine is the first choice for the treatment of patients who are subjectively aware of their heartbeat or complain of palpitations, and without abnormal ECG. Western medicine generally receives priority if the ECG is abnormal.

Recently we had a case in which ECG findings were abnormal and Western drug therapy was initiated, but treatment was discontinued because of adverse drug reactions. The patient was then switched to a Kampo medication, and arrhythmia was reduced. Our findings are reported below.

### Patient: 63-year-old man

Occupation: farmer

Past history: hyperlipidemia

Familial history: Unremarkable

Present history: In March 1993 the patient developed chest pain unrelated to exertion. He came to the hospital for extensive cardiovascular examination. In addition to chest pain, the patient reported symptoms of occasional palpitations and of tiring rather easily.

Chest x-ray and ECG findings were normal. Echocardiogram showed slight calcification of the aortic valve, but no other abnormal findings. Holter ECG recordings showed supraventricular extrasystoles (Fig. 1) and ventricular extrasystoles (Fig. 2) occurring primarily during the day (Fig. 3, Table).

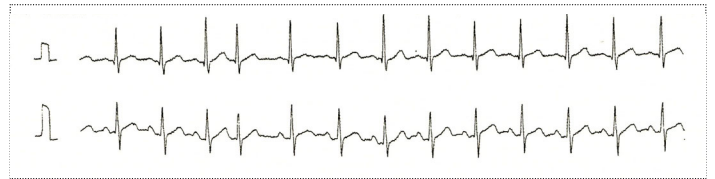


Fig. 1 Supraventricular extrasystole before treatment with *shakanzoto*

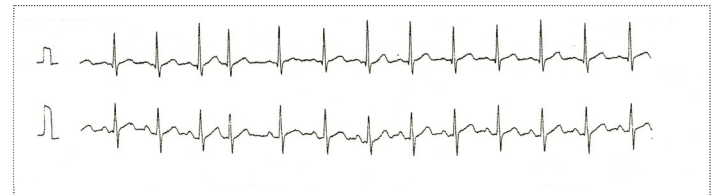


Fig. 2 Ventricular extrasystole before treatment with *shakanzoto*

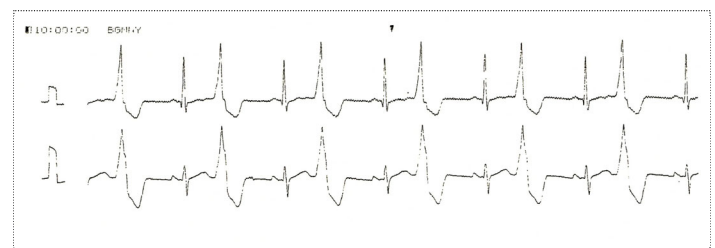


Fig. 3 Holter ECG records for heart rate and number of irregular beats (before taking *shakanzoto*) (Upper row: supraventricular extrasystole; Lower row: ventricular extrasystole) Horizontal axis: time; Vertical axis: heart rate or number of irregular beats

Table Results of Holter ECG findings before and after treatment with *shakanzoto*

	Before	After	Reduction rate
Total heart beats	105600/day	110771/day	
SVE	3382/day	202/day	94%
VE	12947/day	1228/day	90%
couplets	145 episodes	49 episodes	
run	103 episodes	0 episode	

SVE: supraventricular extrasystole VE: ventricular extrasystole

### Present status:

Height: 162 cm

Weight: 72 kg

Blood pressure: 164/80 mmHg

Heart rate: 72 beat /min irregular beat

Conjunctiva bulbi: No anemia, no jaundice

Cardiac sounds: Systolic murmur 2LSB Levine II/IV

Respiratory sounds: No rales

Abdomen: Liver and spleen not palpable

No edema of the lower limbs

### Present Status from the perspective of Oriental medicine

Pigment deposits on the face, dry skin

Pulse: Knotted, lanquidus relaxed, somewhat deep and weak, somewhat congested

Tongue: Somewhat dark red, no fur on tongue, no tooth marks, no fissures

Abdomen: No fullness of the hypochondrium, moderate resistance and tenderness on the lower right abdomen, soft lower abdomen below navel.

### Clinical course

Disopyramide 300 mg/day was initially used for the treatment of arr. However, this treatment was discontinued when the patient developed thirsty of parasympathetic symptom. At that point the patient was started on 9 g/day of *shakanzoto*, a formulation considered to be effective in the treatment of conditions such as knotted pulse, palpitations, and fatigue. After taking the decoction, the patient reported that symptoms such as chest pain and fatigue

had vanished. Holter's ECG, performed 1 month later, showed at least 90% reduction in both supraventricular and ventricular arrhythmia (Fig. 4, Table).

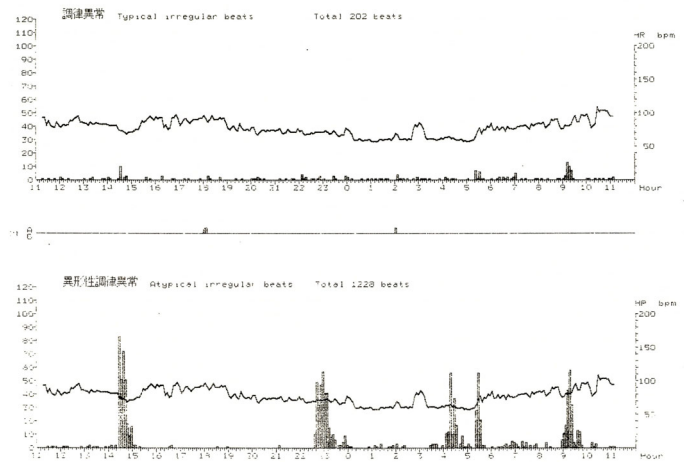


Fig. 4 Holter ECG records for heart rate and number of irregular beats (after taking *shakanzoto*)

Upper row: supraventricular extrasystole

Lower row: ventricular extrasystole

(Horizontal axis: time; Vertical axis: heart rate or number of irregular beats)

### Discussion

In this case *shakanzoto* was administered when the patient developed an adverse drug reaction to the Western drug treatment. The roasted licorice formulation proved to be remarkably effective.

Pulse diagnosis is said to have originated in Asia, spreading through the Islamic world to the West, and ancient Chinese texts on pulse diagnosis have many entries on the pulse. For example, there are entries on Rapid Pulse, corresponding to tachycardia, and on Slow Pulse, corresponding to bradycardia, as well as entries on lost beat (Irregularly Intermittent Pulse and Regularly Intermittent Pulse). The entries regarding the pulse are more detailed than in Western medicine, and possibly as a result of this detailed focus on the pulse, Kampo medicines have been formula for the treatment for the arrhythmias.

*Shakanzoto* was first documented in Shang Han Lun (Discussion of Cold-induced Disorders)", which offered a typical prescription for deficiencies of both ki and yin elements in the heart, including conditions such as knotted pulse, palpitations, shortness of breath, and fatigue. This extract formulation contains

the following ingredients(g):

<i>Glycyrrhizae Radix Praeparata</i>	3.0g
<i>Zingiberis Rhizoma Processum</i>	3.0 g
<i>Cinnamomi Cortex</i>	3.0g
<i>Cannabis Fructus</i>	3.0g
<i>Ziziphi Fructus</i>	3.0g
<i>Ophiopogonis Radix</i>	3.0g
<i>Ginseng Radix</i>	3.0g
<i>Asini Corii Collas</i>	2.0 g
<i>Rehmanniae Radix</i>	6.0g

This prescription, also known as the “shakanzoto”, is considered to build up the blood and restore the pulse. In the Shang Han Lun (On Cold Damage), in the second volume on *Greater Yang Disease*, the text states that, "After cold damage is relieved, knotted pulse and palpitations are present," and the Jin Gui Yao Lue (Synopsis of Prescriptions of the Golden Chamber), in the volume on Asthenic Disease, notes that, "For deficiency and sweating, relieves knotted pulse and palpitations, indicating treatment for arrhythmia.”

There are no definitive reports of anti-arrhythmic effects of individual ingredients of herbal medicines. From a Kampo perspective, *Rehmanniae Radix*, *Ophiopogonis Radix*, and *Asini Corii Collas* have the effects of moisturizing and cooling of the body ,lubricating dry skin, improving nutrition, relieving heat, and acting indirectly to strengthen the heart. *Glycyrrhizae Radix* and *Cinnamomi Cortex* are known to reduce palpitations, and in combination with ginseng, to show cardiogenic and stomachic effects. These pharmacologic effects suggest that *shakanzoto* acts to regulate the autonomic nervous system. The arrhythmia-improving effects noted in this case indicate that the effects of this decoction may extend to sympathetic nervous system activity. Further investigation will be required.

### Conclusion

When a patient who had experienced frequent arrhythmia was treated with *shakanzoto*, Holter ECG findings showed arrhythmia to be reduced to 10% or less. It is hoped that this mechanism can be clarified in further research.