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Japanese Oriental (Kampo) medicine up to the present, and its future

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Abstract

At the Toyama Medical and Pharmaceutical University, more than 20 years have passed since the Department of Japanese Oriental (Kampo) Medicine was established. In this article, I would like to disclose our purposes and achievements during this period. We were able to achieve continuity and growth in the practice and education of Kampo medicine, and the basic aspects of the system of Kampo medicine have been unified. Added to this, I would like to offer my opinion concerning the course that Japanese Oriental (Kampo) medicine should take in the 21st century.

Key words Kampo medicine, education of Kampo medicine, complimenting and harmonizing of Kampo medicine and Western medicine.

Introduction

In 1979, Toyama Medical and Pharmaceutical University established the Department of Japanese Oriental (Kampo) Medicine. It has been over twenty years since Dr. H. Tosa and I were appointed to the department. At that time, Dr. A. Imadaya, Dr. Y. Hiyama, Dr. T. Mitsuma, Dr. K. Torizuka and Dr. T. Itoh from the Society for Research of Oriental Medicine Research Group of Chiba University took part in its inception. Ever since, more and more graduates from Toyama Medical and Pharmaceutical University have joined every year. Today, many fellows are practicing Japanese Oriental (Kampo) medicine.

That was what we had aimed for, and what we achieved during a period of more than twenty years. By looking back upon our department's history, I would like to clarify our objectives, and furthermore, to offer my opinion about the course that Japanese Oriental (Kampo) medicine should take in the 21st century.

1. Succession and practice of Kampo medicine

First of all, we started work that precisely followed

and practiced clinical Kampo medicine on the basis of valuable knowledge from our predecessors. That is to say, we followed and developed the teachings of Dr. K. Fujihira, Dr. S. Ogura and Dr. K. Itoh who previously educated me in Kampo medicine at the Oriental Medicine Research Group of Chiba University. For that purpose, we asked the pharmacy of Toyama Medical and Pharmaceutical University Hospital to provide assistance. As a result, we had large amounts of crude drugs in stock and were able to prescribe and prepare medical Kampo decoctions for not only outpatients but also inpatients.

In this manner, we practiced a new medication system while harmonizing Oriental medicine with Western medicine by including any new evidence of modern medicine. Next, we made an effort to improve and cure various difficult diseases and pathologies such as cerebrovascular disorder, rheumatoid arthritis, scleroderma, ulcerative colitis, atopic dermatitis, chronic renal failure, chronic hepatitis and bronchial asthma, *etc.* We have reported the results of our labor at many scientific meetings and conferences, and have published many articles in scientific journals. Recently, for example, we reported a case of reflex sympathetic dystrophy success-

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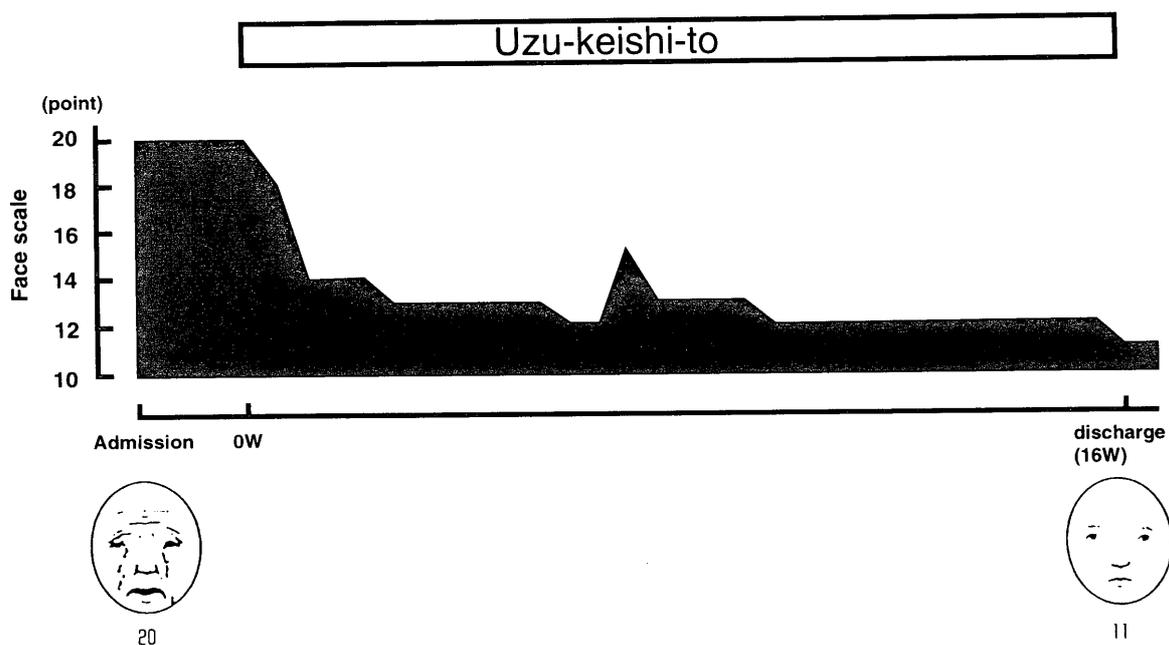


Fig.1 Clinical course in a case of Reflex Sympathetic Dystrophy (RSD) treated with Uzu-keishi-to. The chronic pain of RSD was reduced gradually after administration of Uzu-keishi-to. After the 16-week period of Uzu-keishi-to therapy, the pain evaluated by visual analogue scale decreased to half, and the value on the face scale decreased from 20 to 11.

fully treated with Uzu-keishi-to (Wu-Tou-Gui-Zhi-Tang)¹⁾ (Fig.1). We made an effort to publish papers of such cases one after another.

In this regard, in a series of our undertaking, we were absolutely consistent in the evaluation of the efficacy of Kampo medicine using modern medical markers and measurements. Nowadays, while evidence-based medicine (EBM) is widely emphasized, we made an effort to accumulate evidence of the efficacy of Kampo medicine that could be satisfactorily evaluated by modern medical methods.

2. Education of Kampo medicine

Since 1979, we have been giving lectures on Kampo medicine to the students of our university. Gradually, lectures related to Kampo medicine have been increasing in terms of the percentage of the total curriculum. Now, the Faculty of Medicine of our university has lectures in "Medical and Pharmaceutical History" and "Introduction of Kampo Medicine" for 2nd-year students, and "Medical care and Kampo Medicine" for 4th-year students, "Basic Clinical Information and Technique" for 5th-year students, and clinical practice for 5th- and 6th-year students. Moreover, the pharmaceutical faculty started lectures under the heading of "Outline of Oriental

Medicine" for 3rd-year students from this year.

As a result of our education, students graduating from our university understand the technical terms of "Ki", "Ketsu" and "Sui" that express the basic pathophysiological concepts of Kampo medicine. Moreover, they can correctly read the names of Kampo prescriptions such as "Hochu-ekki-to (Bu-Zhong-Yi-Qi-Tang)" or "Rikkunshi-to (Liu-Jun-Zi-Tang)" that are commonly apt to be kept at a distance because of their difficult Chinese characters. By educating students before graduation, while their minds are flexible and supple, in Kampo medicine, this system of medicine will stand a good chance of being understood and accepted.

At our university, we were ahead of others in terms of offering a Kampo medicine lecture-based curriculum. Now, faculties in many universities and medical colleges are starting the education of Oriental medicine. In 1999, "The Association of Medicine and Healing in the 21st Century", a consultative organ of the Ministry of Education, Culture, Sports, Science and Technology, proposed an educational system for doctors and dentists. The proposal was that various subjects or courses of study would be positively introduced for the purpose of training talent that could cope with the growing needs for medical care and healing, and then it was proposed that a "Core

Curriculum," to study the basic knowledge and selected areas of priority be established. In March, 2001, the "Core Curriculum", composed at the meeting of all heads of medical faculties was officially announced as a result of this proposal. By this "Core Curriculum", all medical students have to understand up to a certain level of Kampo medicine. Further, the teaching staff must prepare an educational system that will ensure that they understand the system of Kampo medicine satisfactorily.

What does the introduction of Kampo medicine to medical education mean? I think that it is the first step in solving the various discrepancies produced by the idea of the "machine theory" in modern science, in spite of the significant development of medicine in the 20th century. The points of significance of introducing Kampo medicine to a university medical curriculum are listed in Table I. I am sure that the inclusion of Kampo medicine in medical education will have the merit of leading to the production of a new, effective medical system that will satisfy the needs of the Japanese people.

3. Unification of the basics of Kampo medicine

"Sho (zheng)" is a Kampo diagnosis, and it is used to recognize the clinical features by an assessment method of the Kampo system of medicine. I think that

researching Kampo medicine scientifically without consideration of this basic factor is equal to building a castle in the sand. But, as "Sho (zheng)" provides information of a living body by the five senses, it is not always so precise. In consequence, in order to develop this medical system, it is needed to arrange and integrate various points of information of the living body with the viewpoint of Kampo medicine added to the classical method. In this article, I will report on the history of our department.

1) Clarification of pathological status

We investigated "Sho (zheng)", a special expression of Kampo medicine, from the view of modern medicine. One of our investigations was a study about the relationship between aspects of the tongue and endoscopic findings, performed by Dr. H. Tosa, former associate professor, and his co-workers.²⁾ They found a correlation of tongue coating with erosion of gastric mucosa, reversing the old theory that tongue coating was not a pathological finding. Then, in order to evaluate the severity of the "Oketsu" state objectively, we investigated the pathological state of the "Oketsu" syndrome by establishing the "Oketsu" diagnostic criteria ("Oketsu" score) based on a multivariate analysis³⁾ (Table II). As a result of observing the microcirculation of bulbar conjunctiva, we

Table I The significant aspects of introducing Kampo medicine to the university curriculum

1. Training of medical practitioners with a broad vision by the understanding of other cultures
2. Cultivation of a desire to cure
3. Learning of a medical care system that treats in totality without separating mind and body
4. The ability to customize medications
5. A new understanding of a natural healing power
6. Revival of confidence in the five senses of humans
7. Producing talent to construct a new learning system of medical treatment

Table II Diagnostic criteria for "Oketsu" syndrome

symptoms	score		symptoms	score	
	male	female		male	female
dark shade around the eyes	10	10	tenderness of left navel region	5	5
pigmentation over the face	2	2	tenderness of right navel region	10	10
rough skin	2	5	tenderness under the navel region	5	5
purple discoloration of lips	2	2	tenderness of iliocolic region	5	2
purple discoloration of gums	10	5	tenderness of hypochondrial region	5	5
purple discoloration of tongue	10	10	tenderness of sigmoid region	5	5
telangiectasis, vascular spider	5	5			
susceptibility to subcutaneous bleeding	2	10	hemorrhoids	10	5
redness of palms, palmar erythema	2	5	dysmenorrhea		10

Evaluation : 20 points and less : non-"Oketsu" state.
 21 points and above : mildly affected "Oketsu" state.
 40 points and above : severely affected "Oketsu" state

Proposed by the research group, supported by the Ministry of Science and Technology of Japan.

discovered a sludge phenomenon and rouleau formation in the microcirculation of bulbar conjunctiva because of the production of erythrocyte aggregation in microvessels in the "Oketsu" state.⁴⁾ Further, as a result of estimating hemorheological abnormalities in the "Oketsu" state, we distinctly observed elevation in the blood viscosity, acceleration of erythrocyte aggregability, and deterioration of erythrocyte deformability in accordance with the severity of the "Oketsu" state.^{5,6,7)}

2) The mechanisms for distinguishing the effect of Kampo medicine

We objectively proved the efficacy of Kampo medicine by means of modern medical methods. For example, in a study about the effect of Keishi-bukuryo-gan (Gui-Zhi-Fu-Ling-Wan) as part of studies about the pathology of the "Oketsu" state, we objectively expressed the effect of this Kampo prescription as an improvement of the "Oketsu" score. We further clarified its effect through improving the microcirculation of bulbar conjunctiva (Fig.2) and hemorheological factors.^{8,9,10)} We also demonstrated the endothelium-dependent vasodilator effect of *Paoniae Radix* (the roots of *Paonia lactiflora* PALLS) and *Cinnamomi Cortex* (the bark of *Cinnamomum cassia* BLUME), which are the crude drugs composing Keishi-bukuryo-gan.^{11,12)}

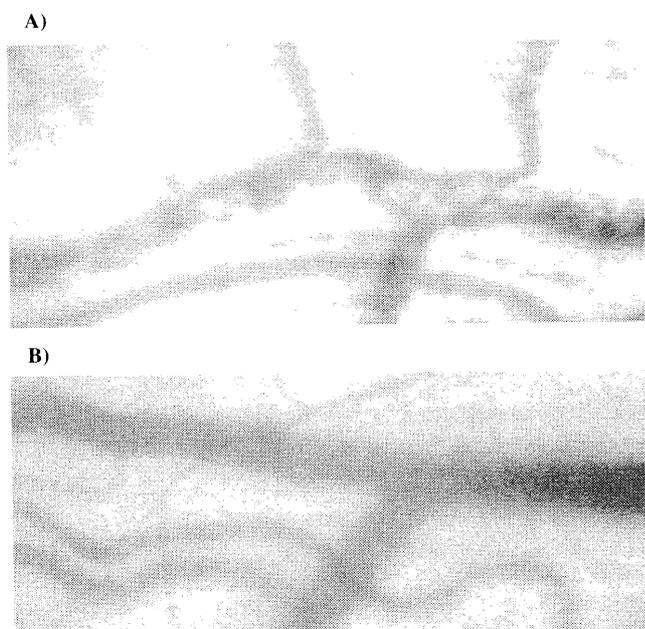


Fig.2 (A) Intravascular erythrocyte aggregation with sludge phenomenon in the microvessels of bulbar conjunctiva of the patient with the "Oketsu" state.
(B) After administration of Keishi-bukuryo-gan, the microcirculation of bulbar conjunctiva of the same patient was improved.

3) Research on new efficacies of Kampo medicine

We not only investigated the unique pathological state and mechanisms of Kampo medicine, but we also closely examined new efficacies of Kampo medicine. In another study, we showed that Keishi-bukuryo-gan prevented the progression of atherosclerosis in hyperlipidemia model rabbits via a suppressive effect on oxidized LDL¹³⁾ (Fig.3).

We carried out a multi-center, double-blind study of Choto-san (Diao-Teng-San) and a placebo, as Choto-san administered to patients with hypertension or headache clinically improved those patients with vascular dementia. This study revealed Choto-san to be superior to the placebo in both global improvement rating and utility rating, and we objectively proved the efficacy of Choto-san against vascular dementia¹⁴⁾ (Fig.4).

The above-mentioned studies are only a portion of our research. In addition, we investigated the effects and mechanisms of Kampo medicine on rheumatic arthritis and chronic renal failure, the mechanism of effect on infectious diseases such as influenza, the effect on autonomic function, and the combination treatment of interferon and Mao-to (Ma-Huang-Tang). By the performance of these various studies, we obtained significant evidence of the favorable effects of Kampo medicine,

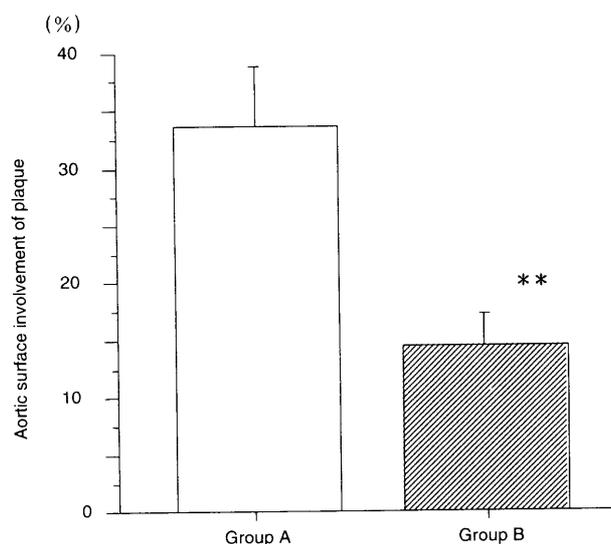


Fig.3 Aortic surface involvement expressed as the proportion (percent) of the area of aortic plaque involvement to the entire aortic area. Aortic surface involvement of control rabbits (group A) was greater than that of treated rabbits (group B) statistically. Values are mean \pm S.E. of 8 determinations. **Significant difference from group A ($p < 0.01$)

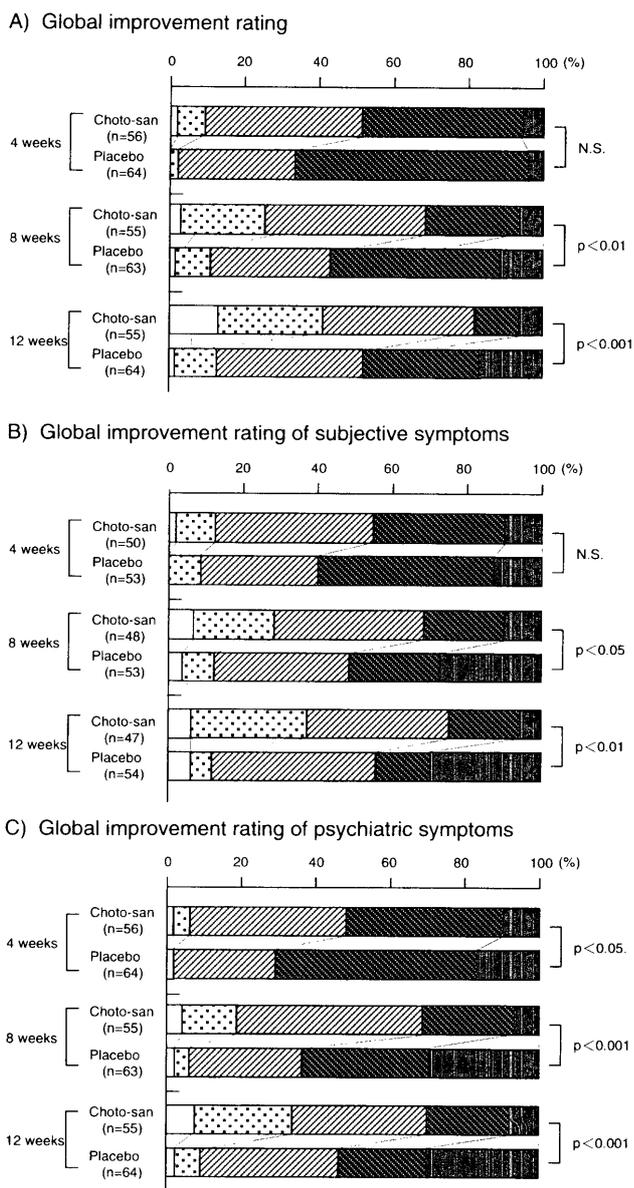


Fig.4 Comparison of the Choto-san and placebo groups in the improvement ratings. remarkable improvement (□), moderate improvement (▤), slight improvement (▥), unchanged (▧), aggravation (■). p value: Mann-Whitney test.

and we made an effort to unify its basic aspects.

4. The mutual complement of Oriental medicine and Western medicine

I cannot deny the fact that Western medicine has achieved some splendid results, but the Japanese medical system, in greeting the 21st century, is urged to undergo a major conversion. Since the Meiji era, Western medicine, based on natural science, was introduced by a policy to equal and overtake Europe and America. Natural

science completely attaches importance to universality, objectiveness and logic, excluding subjectiveness, and is a method that finds a law of nature by simplifying and measuring the relation between the cause and the effect. In the field of medicine, to distinguish between subjectiveness and objectiveness, the mind and body of the human were considered to be different. This is the dualism of mind and body. Added to this dualism, "reductionism to an element", that the generality was understood by the fractionalization of all matter, and "the theory of machine", that a human body was composed of a machine, fundamentally formed the basis of medicine up to this time. As a result, the existence of humans was understood by being partial to a biological aspect, and the influence of the mind tended to be underestimated. Then, from reductionism to an element, the specialization of medicine became advanced, resulting in the tendency to excessively worship a specialist. By the principle of analysis, a pure drug only was worshiped, and a natural crude drug such as a Kampo medicine was underestimated. In consideration of the fact that crude drugs are evaluated properly in Europe and America produced natural science, there must be "believers of science" in Japan now.

On the other hand, the various needs of the present Japanese are now not satisfied by only the reductiveness to an element or a mechanical approach as earlier. Moreover, a regrettable fact is that there are few doctors who try to establish favorable human relations with patients. For these reasons, I cannot help but consider that the fields of medicine and medical education up to this time have faced certain limitations. Kampo medicine is a technique for diagnosing by the five senses of the human being, and it is also a medical system for the practitioner to acquire a healing mind that is a basic aspects of medicine. Therefore, by harmonizing Kampo medicine with Western medicine, I am sure that the production of a new medical system to cope with various needs will be born.

Well then, what should we do for the future? In Kampo medicine, to attach importance to the five senses is a good point, but it is a weak point at the same time. In addition, the understanding of the pathological state in Kampo medicine is still vague. Concretely, there are many problems to clarify as follows. Why does Yin-sho or Yang-sho occur? What is Kakkon-to-sho? Why does

"Kyokyokuman", tenderness or discomfort of the hypochondrium, appear? Why is a person presenting "Kyokyokuman" apt to get angry? Why is the tenderness of the paraumbilical region a symptom of the "Oketsu" state? What is "Suitai"? What is "Ki"? Is there a relationship between "Sho" and genotype? And so on. These must be clarified. We must make clear why Kampo prescriptions are composed of plural crude drugs in order to make them most efficacious. For that purpose, we need to investigate Kampo medicine by means of new modern method rather than by sticking to traditional methods. Therefore, it is necessary to introduce a modern medical method. Kampo medicine is never in conflict with Western medicine. A new system of medicine is expected to be produced by supplementing, and harmonizing with each other in the 21st century.

和文抄録

富山医科薬科大学に和漢診療学講座が開設されてから20年余りが過ぎた。この経過の中で、我々が何をめざし、何を達成してきたのか。これまでの足跡を振り返り、明らかとした。具体的には、それは先人がこれまで作り上げてきた漢方医学の伝統を継承し、実践することであり、これからの医学生に漢方医学を教育することであり、漢方医学の基盤の強化のための病態や漢方薬の作用機序の科学的な解明であった。さらに、21世紀に和漢診療学が目指すべき方向について私見を述べた。

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