

Fuku shin, a Kampo diagnostic procedure, could be one of useful diagnostic tools for anxiety disorders and depression

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ABSTRACT

Kampo medicine, a Japanese traditional herbal medicine, has been used in clinical practice in Japan. The most appropriate Kampo formula should be chosen for each individual by the four diagnostic procedures. Fuku shin, the abdominal exam, is one of the most important approaches in the procedures. There are several abdominal conformations (signs) when administering Fuku shin. In Kampo medicine, psychiatric illness-marked by depression and anxiety-has been shown to be related with an abdominal conformation, Shin ka hi koh (Epigastric Obstructive Hardness). The aim was to see the occurrence of abdominal conformations in each level of depression and anxiety symptoms. Two hundred fifteen patients were assigned to high-, moderate-, or low-level psychiatric comorbidity based on the Hospital Anxiety and Depression Scale and were studied regarding the occurrence of major abdominal conformations. Moderate and high psychopathological groups showed the higher occurrence of Shin ka hi koh [Low, 21%; Moderate, 67%; High, 74%] ($p < 0.0001$). In conclusion, moderate and high psychopathological patients showed the higher occurrence of a specific abdominal sign.

Keywords Fuku shin (the abdominal exam), psychiatric comorbidity, Kampo medicine, Shin ka hi koh

INTRODUCTION

Kampo medicine, a Japanese traditional herbal medicine based on traditional Chinese herbal medicine, has been used for the treatment of chronic pain in Japan (Otsuka, 2010; Terasawa, 2004). Traditional Chinese medicine and Kampo developed a characteristic system (Otsuka, 2010; Terasawa, 2004). There are essentially three dichotomic categories and three substance concepts in the system. The three dichotomies are: Yin-You (ying-yang), Kyo-Jitsu and Netsu-Kan. They could be expressed as positive-negative, hollow-full and hot-cold, respectively, in English. The three substance categories are Ki (Qi), Ketsu and Sui. Ki (Qi) could be understood as energy fundamental to living things. In contrast to the Ki (Qi) concept, Ketsu and Sui are material and much closer to the usual concepts of blood and body fluids, respectively. In Kampo and traditional Chinese medicine, the healthy state of human beings means a well-balanced or undeviated condition of the three dichotomic categories and the three substance concepts. Disease conditions due to the deviation or imbalance are understood by the four diagnostic procedures. According to Kampo theory, the most appropriate Kampo formula should be chosen for each individual by the four diagnostic procedures (Otsuka, 2010; Oya et al., 2008; Terasawa, 2004). Fuku shin, the abdominal exam, is one of the most important approaches in the four diagnostic procedures (Otsuka, 2010; Yamamoto et al., 2011). There are several abdominal conformations (signs) when administering Fuku shin. There are three major abdominal conformations: Shin ka hi koh, Epigastric

Obstructive Hardness; Kyoh kyoh ku man, Hypochondriac Distress and Fullness; Sho fuku koh man, Lower-Abdomen Hardness and Fullness (Otsuka, 2010). In Kampo medicine, especially, psychiatric illness-most often marked by depression and anxiety-has been shown to be related with Shin ka hi koh, Epigastric Obstructive Hardness (Otsuka, 2010).

Anxiety and depression are major factors influencing patients' quality of life and may keep them from getting a benefit of treatment (Pallant and Bailey, 2005). However, one of the important issues for clinicians is the choice of a screening tool. Since its publication in the early 1980's the Hospital Anxiety and Depression Scale (HADS) has been used in a number of studies (Pallant and Bailey, 2005). The HADS was designed to assess two separate dimensions of anxiety and depression. The HADS consists of 14 items; the anxiety (HADS-A) and depression (HADS-D) subscales each include 7 items (Matsudaira et al., 2009; Pallant and Bailey, 2005). A 4-point response scale (from 0 representing absence of symptoms, to 3 representing maximum symptom) is used, with possible scores for each subscale ranging from 0 to 21.

We hypothesized that Shin ka hi koh, Epigastric Obstructive Hardness, would be one of signs of psychiatric comorbidity. We thus compared the occurrence of the three major abdominal conformations in each level of depression and anxiety symptoms.

MATERIALS AND METHODS

Retrospective analysis from September 2009 to February 2011 was performed on 694 patients suffering from chronic pain who visited the pain center of Aichi Medical University Hospital. All patients were referred from other hospitals to the pain center. Patients who underwent Kampo diagnosis for Kampo formula were included.

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Table 1. Patients' characteristics

	Low (n = 68)	Moderate (n = 75)	High (n = 72)	<i>p</i>
Sex (M/F)	26/42	19/56	26/46	0.2084
Age (Years)	53 ± 16	54 ± 16	55 ± 18	0.9299
Weight (kg)	57 ± 13	53 ± 10	54 ± 12	0.1293

Values are mean ± SD or numbers. There were no significant differences.

The HADS is routinely administered to all patients on admission to the pain center. The existing translation of the HADS Japanese version (Matsudaira et al., 2009) is used in our daily clinical practice. The HADS and the abdominal exam records of Kampo diagnosis from September 2009 to February 2011 were extracted from medical records for the present study, after receiving ethics committee approval of Aichi Medical University. Consequently 215 subjects were included in the present study.

Upon the abdominal exam records, we investigated the occurrence of three major abdominal conformations: *Shin ka hi koh*, Epigastric Obstructive Hardness; *Kyoh kyoh ku man*, Hypochondriac Distress and Fullness; *Sho fuku koh man*, Lower-Abdomen Hardness and Fullness (Otsuka, 2010).

Shin ka hi koh, Epigastric Obstructive Hardness: Patients report that their epigastriums feel 'stuffed', and upon palpation by the physician, tightness and resistance are detected.

Kyoh kyoh ku man, Hypochondriac Distress: There is a feeling of fullness in the hypochondrium, as well as distress and pain there. It can be verified objectively as resistance and pressure pain.

Sho fuku koh man, Lower-Abdomen Hardness and Fullness: The lower abdomen is inflated and shows resistance as well.

The patients were assigned to high-, moderate-, or low-level psychiatric comorbidity based on the subscales of the HADS (Wasan et al., 2009; Wasan et al., 2005). To be in the High group, scores had to be high on both the depression and anxiety subscales (i.e., at least 9 on each, HADS total score ≥ 18). To be in the Low group, scores had to be low on both subscales (total score ≤ 12), and the moderate group was all others not meeting the high or low criteria.

Data are presented as mean ± SD or the number of patients. Patients' characteristics were compared using One-way ANOVA followed by a Tukey test or a Chi-Square test. The occurrence of each abdominal conformation was analyzed using a Chi-Square test. *p*-value of < 0.05 was considered significant.

Table 2. The occurrence of each abdominal conformation

	Low (n = 68)	Moderate (n = 75)	High (n = 72)	<i>p</i>
<i>Shin ka hi koh</i> (+/-)	14/54 (21%)	50/25 (67%)*	53/19 (74%)*	< 0.0001
<i>Kyoh kyoh ku man</i> (+/-)	31/37 (46%)	33/42 (44%)	39/33 (54%)	0.3764
<i>Sho fuku koh man</i> (+/-)	33/35 (49%)	40/35 (53%)	39/33 (54%)	0.7734

Values are numbers. *, significantly different from Low group.

RESULTS

The patients' characteristics are presented in Table 1. Sixty-eight of the patients (31%) were in the low psychopathology group, 75 (35%) in the moderate psychopathology group, and 72 (34%) in the high

psychopathology group. There were no significant differences in the patients' characteristics among the three groups. The occurrence of *Shin ka hi koh* was higher in the moderate and high psychopathology groups than in the low psychopathology group [Low, 21%; Moderate, 67%; High, 74%] (*p* < 0.0001) (Table 2). There were no significant differences in the occurrences of *Kyoh kyoh ku man* and *Sho fuku koh man* among the three groups.

DISCUSSION

The main findings of the present study are that the moderate and high psychopathology groups showed the higher occurrence of *Shin ka hi koh* or Epigastric Obstructive Hardness, and there were no significant differences in the occurrences of the other major abdominal conformations based on one of the Kampo diagnosis, *Fuku shin* (the abdominal exam).

The HADS was originally designed to assess two separate dimensions of anxiety and depression (Matsudaira et al., 2009; Pallant and Bailey, 2005). As a brief screening tool the HADS scale has increased in popularity. A review article concludes that the HADS performs well in screening for cases of anxiety disorders and depression in patients from non-psychiatric hospital clinics (Bjelland et al., 2002).

There are the four diagnostic procedures that make up what is called in Kampo medicine the four exams by which Kampo formula is prescribed for each individual (Otsuka, 2010; Oya et al., 2008; Terasawa, 2004). *Setu shin*, the tactile exam, is one of them, which consists of *Fuku shin*, the abdominal exam, and *Myaku shin*, the pulse exam. In Kampo medicine, sensations from the outside rule the pulse and internal damages govern the abdomen (Otsuka, 2010). This means that the diagnosis of exogenous agent-induced disease such as acute febrile disease depends on the pulse, while the progress of chronic illnesses is taken to be endogenous-induced and the diagnosis should be made in accordance with the abdominal signs. That is, chronic illnesses are induced by mental factors to such an extent and an abdominal sign could indicate a psychiatric illness. In fact, when seeing an abdominal sign, *Shin ka hi koh* (Epigastric Obstructive Hardness), the most commonly used recipes are specific Kampo formulas which would treat the psychiatric illness (Otsuka, 2010). Also, the present study showed that moderate and high psychopathological patients had the abdominal sign. We thus postulate that *Fuku shin*, the abdominal exam, could be a diagnostic tool for psychiatric illness.

In conclusion, moderate and high psychopathological patients showed the higher occurrence of an abdominal sign, *Shin ka hi koh* (Epigastric Obstructive Hardness).

CONFLICT OF INTEREST

The authors have no conflicting financial interests.

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