

## A suspected case of somatic symptom disorder improved by herbal medicine: A case report



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### ABSTRACT

**Background and purpose:** Somatic symptom disorder (SSD) refers to a significant impairment in daily activities due to a dysfunctional preoccupation with one or more physical symptoms. This study reports the effectiveness of herbal medicine (HM) on SSD patient.

**Materials and methods:** A 58-year-old woman had somatic atypical gastrointestinal symptoms for 5 years; i.e., an uncomfortable feeling going from the stomach to the ear as well as related severe anxiety. A Korean medicine (KM) doctor presumed she had SSD and phlegm-dampness syndrome, consequently, *Xiao Ban Xia Jia Fu Ling Tang* was administered. Her anxiety symptoms were rated using the numerical rating scale and the Beck anxiety inventory.

**Results:** The somatic symptoms originating in the stomach and chest, as well as the severe anxiety, improved markedly after 2 months of KM treatment.

**Conclusion:** HMs used for treating phlegm-dampness syndrome may be effective in treating conditions involving somatic symptoms and related anxiety.

### 1. Introduction

Somatic symptom disorder (SSD) is a newly suggested diagnosis in the Diagnostic and Statistical Manual of Mental Disorders Fifth Edition (DSM-5), which refers to a significant impairment in daily activities due to a dysfunctional preoccupation with one or more physical symptoms [1]. Patients with SSD are characterized by somatic symptoms, and disproportionate thoughts, feelings, and behaviors associated with these symptoms [1]. Psychotherapy, including cognitive behavior therapy; antidepressants, including amitriptyline and selective serotonin reuptake inhibitors; and complementary and integrative medicine approaches, including mindfulness-based therapy and St. John's wort are recommended for the treatment of SSD [2]. However, psychopharmacotherapy such as antidepressants still lacks long-term efficacy [3], and can cause several side effects including withdrawal symptoms, sexual side effects, and weight gain, which in turn cause poor adherence to treatment in the patients [4]. Many SSD patients in primary care can be treated as patients with medically unexplained symptoms (MUS) [5], which results in both patients and clinicians to suffer from misdiagnoses and subsequent treatments. In Korea, some

patients with apparent discomfort but without any abnormalities found during medical examination are referred to the Korean medicine (KM) clinic. Growing evidence suggests that herbal medicines (HMs), a main component of KM, may be effective in the treatment of common mental health disorders such as anxiety and depression [6,7]. However, the effectiveness of HMs on SSD patients has not yet been documented.

This case report presents the case of a middle-aged woman who had somatic symptoms for 5 years that had not been medically explained and her anxiety about the symptoms. She was treated with a HM for phlegm-dampness syndrome at the KM clinic for 2 months and experienced a marked improvement in the quick onset somatic symptoms, as well as in the severe anxiety symptoms. According to traditional KM theory, phlegm-dampness is associated with eating behavior and digestive system symptoms, and may cause several symptoms such as chest tightness, palpitation, chest pain, and dizziness. *Xiao Ban Xia Jia Fu Ling Tang*, the HM prescribed for the treatment, was used to treat the presence of pathologic phlegm-dampness in the diaphragm.

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## 2. Case presentation

### 2.1. Case

A 58-year-old woman, with no past history or family history of psychiatric disease, visited the KM clinic in January 2019 with symptoms of MUS, anxiety, and insomnia which began in September 2013. She had a hysterectomy 10 years prior and was taking medications (Cozaar Tab. 100 mg 1T quaque die every day (qd), Myungmoon Atorvastatin Tab. 10 mg 1T qd, and Progynova 28 Tab. 2 mg 1T qd) for hypertension, dyslipidemia, and menopausal symptoms.

The symptoms she complained of were ‘attack’ patterns, occurring every 2–3 months while eating or whenever she woke up at dawn. On the first visit of the KM clinic, she said, “*When I wake up at dawn or when I have upset stomach, I start to feel a twinge in my chest, then it gets up to my ears. It's not a hot flush. I have to squat down for about 5 min to get rid of it. ... I am always anxious because I do not know when this will happen. My daily life has been ruined by this. It makes me despair that there was no clinic or hospital that clarified the cause of this symptom. What should I do?*” She said that she always feels a knot in her stomach. She was suffering from not only the symptoms, but also from a fear that the quick onset symptoms would recur.

Since September 2013, she had received the following examinations at three local clinics and one university hospital: a thyroid function test (Sept 2013), a gastroscopy (Nov 2015), a blood test including a rheumatoid factor test, urinalysis, thyroid ultrasound, abdominal ultrasound, and a colonoscopy (Oct 2016), chest radiographs (Aug 2017), an electrocardiogram (ECG), brain magnetic resonance imaging (MRI), an electroencephalogram (EEG) (Dec 2018), and a Holter ECG (Jan 2019). However, except for moderate atrophic gastritis (Pepsinogen [PG]-I: 67.0 ng/mL; PG-II: 24.0 ng/mL; PG I/II ratio: 2.8), reflux esophagitis, a *Helicobacter pylori* infection found during the gastroscopy, hemorrhoids and colon polyps found during the colonoscopy, and moderate cardiomegaly seen in the chest radiographs, there were no obvious abnormal findings. Thus, no definite diagnosis or organic abnormality was found in various tests, and she spent about five years moving around clinics, without proper treatment. Finally, at the university hospital, she was advised to go to a psychiatric clinic, but she refused and visited the KM clinic instead.

### 2.2. Diagnosis

She was constantly experiencing excessive preoccupations, distress, and severe anxieties about her physical symptoms along with her MUS, which suggests that she was suffering from somatic symptoms. At the first visit (day 1), the numerical rating scale (NRS) score for the anxiety was 10 and the Beck anxiety inventory (BAI) score was 40, representing a severe state of anxiety.

Her various symptoms appeared to be related to the gastrointestinal tract, but she did not show typical upper or lower gastrointestinal symptoms; i.e. she complained about ambiguous discomfort rather than symptoms such as distinct nausea, vomiting, diarrhea, or constipation. She also did not complain of obvious depression or suicidal thoughts. Based on the somatic symptoms and related serious anxiety, the KM doctor suspected that her symptoms met the DSM-5 criteria for SSD. Since the KM doctor did not major in psychiatry or psychology, only a putative diagnosis was possible. The possibility of functional gastrointestinal disorders in the patient could not be ruled out, but the high level of anxiety as well as the somatic symptoms she complained of led the doctor to the diagnosis of SSD. Although functional gastrointestinal disorders are often associated with negative mental health conditions including high somatic symptom burdens [8], they alone are not significantly associated with extremely high levels of anxiety.

Moreover, the doctor also noted that the patient's symptoms were related to her eating behaviors, which can indicate phlegm-dampness syndrome and/or food accumulation, according to KM theory. In the

**Table 1**  
Changes in patient symptoms.

Outcome	Day 1	Day 14	Day 29	Day 44	Day 59	Day 127
NRS	10	7	5	3	2	1
BAI	40	29	22	13	4	5
Symptom <sup>a</sup> attack (past 2 weeks)	2	0	0	0	0	0
Treatment	<i>Xiao Ban Xia Jia Fu Ling Tang</i> (only) taken for 59 days Daily use: <i>Pinelliae Rhizoma</i> 24 g, <i>Zingiberis Rhizoma Recens</i> 16 g, and <i>Poria</i> 6 g (in each 120 cc decoction packs, bid pc)					Follow up

**Abbreviations.** BAI, Beck anxiety inventory; bid, bis in die; NRS, numerical rating scale; pc, post cibum after meals.

<sup>a</sup> Somatic symptom of having an uncomfortable feeling which goes from the stomach to the ear, with nausea, lightheadedness, and dizziness.

KM examinations, sting-like and rapid pulse, thick fur of the tongue, and distinct tenderness at the acupuncture point Zhong Wan (CV12) were found. In addition, her digestive system symptoms, dizziness, heavy-headedness, chest tightness, chest pain and palpitations suggested the presence of phlegm-dampness. Based on these findings, the doctor suspected that the patient had phlegm-dampness syndrome with suspected SSD.

### 2.3. Treatment

Based on the diagnosis, she was prescribed *Xiao Ban Xia Jia Fu Ling Tang* as a HM treatment. The daily composition of this decoction was as follows: *Pinelliae Rhizoma* 24 g, *Zingiberis Rhizoma Recens* 16 g, and *Poria* 6 g (in each 120 cc decoction pack, bis in die post cibum after meals). Because there was improvement in her overall symptoms during the treatment, the patient continued to take the HM for a total of 59 days. The KM doctor prescribed this HM to treat the presence of pathologic phlegm-dampness in the diaphragm according to traditional medicine theory, focusing on the somatic symptoms starting in the stomach and chest. Moreover, she was advised to avoid snacks as a lifestyle modification. Additionally, she was recommended to receive regular acupuncture treatments. She refused acupuncture because she worked late at a restaurant and could not visit the clinic regularly.

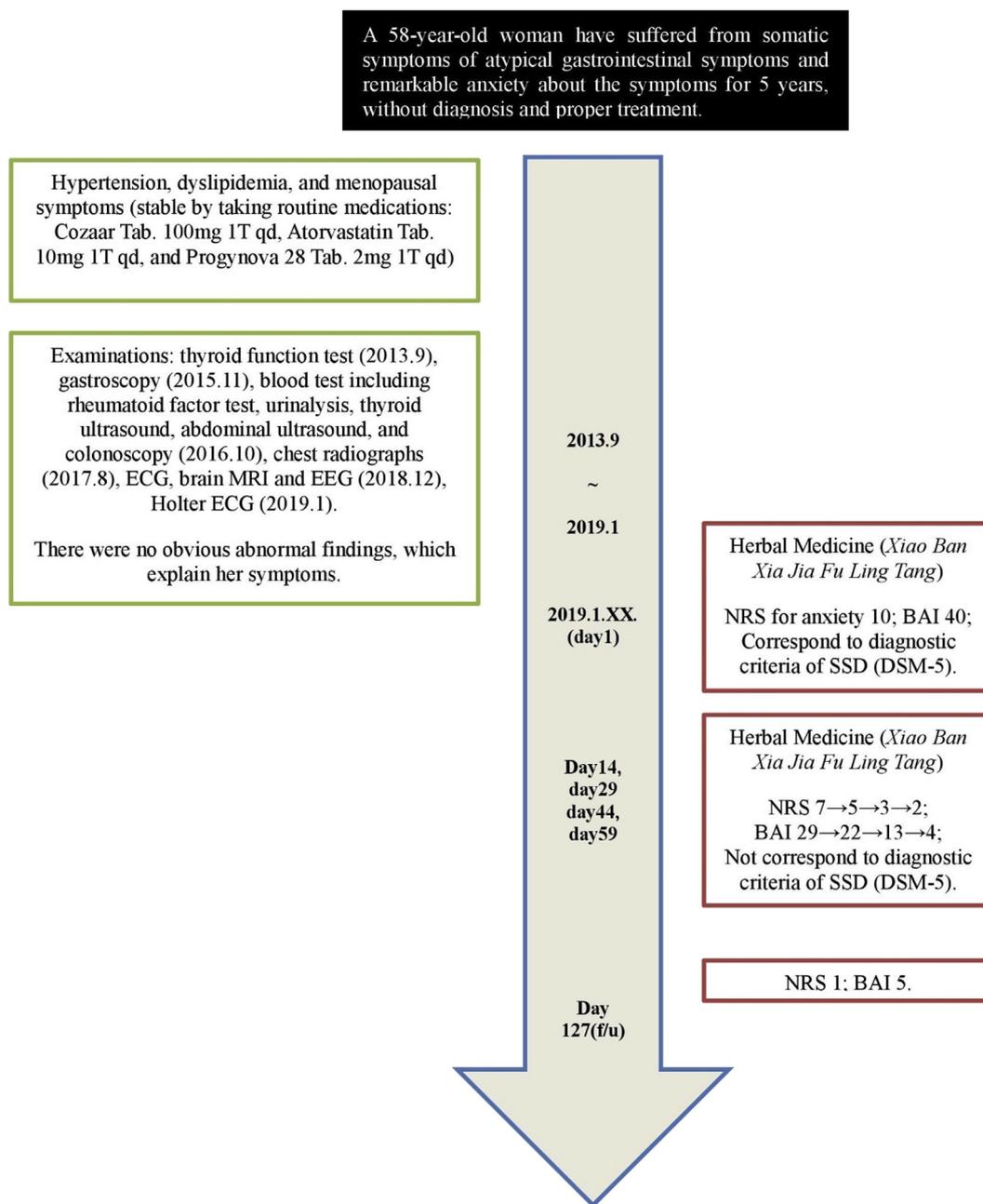
### 2.4. Progress

One day prior to her second visit, she called the KM clinic and said that the HM treatment was effective for her stomach discomfort, and she wanted a new prescription when she visited the clinic the next day so she could take the HM in succession. Interestingly, on the second visit (day 14), she said the anxiety, especially worse at night, also improved after the HM treatment. Her NRS score for anxiety and BAI score were 7 and 29, respectively. *Xiao Ban Xia Jia Fu Ling Tang* was repeated as HM treatment.

On the third visit (day 29), she stated that she was very surprised that the quick onset somatic symptoms in her stomach and chest had not occurred for a month. Additionally, the thick fur on the tongue had faded, and the tenderness in Zhong Wan (CV12) was slightly reduced. Her NRS score for anxiety and BAI score were 5 and 22, respectively. The HM treatment was repeated.

On the fourth visit (day 44), her anxiety symptoms were improving. Interestingly, her sting-like and rapid pulse changed to normal pulse. Moreover, the tenderness in Zhong Wan (CV12) was also markedly reduced. The NRS score for her anxiety and BAI score were 3 and 13, respectively. The HM treatment was repeated.

On the fifth visit (day 59), she noted that while she was still nervous at night, the anxiety no longer overwhelmed her, and she could easily recover. The NRS score for her anxiety and BAI score were 2 and 4,



**Fig. 1.** Timeline: a suspected case of somatic symptom disorder improved by herbal medicine.

**Abbreviations.** BAI, Beck anxiety inventory; bid, bis in die; DSM-5, the Diagnostic and Statistical Manual Fifth Edition; ECG, electrocardiogram; EEG, electroencephalogram; f/u, follow up; MRI, magnetic resonance imaging; NRS, numerical rating scale; qd, quaque die every day; SSD, somatic symptom disorder.

respectively. As the severity of the anxiety had decreased markedly, she no longer met the SSD criteria, and because the signs of phlegm-dampness syndrome improved, the HM treatment was discontinued. No obvious side effects were observed during this KM treatment.

On the last visit (day 127), her NRS score for anxiety and BAI score were 1 and 5, respectively (Table 1) (Fig. 1). She recalled the treatment process as follows: “Before I received this KM treatment, my symptoms got worse and I felt a twinge in my chest. I have to squat down for about 5 min to get rid of it. Moreover, difficult urine control caused me a big sense of shame. I am very happy now that I have no symptom attacks for some months. I'm not anxious anymore. Rather, I am worried that my appetite has improved. (ho, ho, ho) Still, I am especially careful of dinner and avoiding fatty foods. Thank you for solving the inveterate disease.”

### 3. Discussion

Many patients with SSD and/or MUS visit primary clinics [9]. In some cases, both patients and clinicians suffer from misdiagnoses and subsequent treatments, and for this reason, patients with no abnormal findings during a medical examination are often referred to the KM clinic. This case report describes a middle-aged woman suffering for 5 years from somatic symptoms that had not been medically explained, along with significant anxiety about the symptoms. She was treated with HM, *Xiao Ban Xia Jia Fu Ling Tang*, at the KM clinic for 2 months and experienced a marked improvement in the quick onset somatic symptoms as well as in her severe anxiety.

Although she complained of atypical gastrointestinal symptoms; i.e. an uncomfortable feeling going from the stomach to the ear through the chest, it is worth pointing out that high somatic symptom burdens are

closely related to functional gastrointestinal disorders [8]. To treat the phlegm-dampness syndrome, *Xiao Ban Xia Jia Fu Ling Tang* was prescribed. This prescription was first introduced in Chinese classical medicine during the Han period, ‘*Jinkui Yaolue*’; the prescription is intended to treat a disease caused by the presence of retained fluid and phlegm-dampness syndrome in the chest. This prescription is composed of three herbs including *Pinelliae Rhizoma*, *Zingiberis Rhizoma Recens*, and *Poria*, and is now being clinically used for treatment of nausea, vomiting, dizziness, and more. However, in the classical concept of both KM and traditional Chinese medicine, phlegm-dampness syndrome is closely related to psychiatric disease and can cause stagnation syndrome [10]. In this case, the KM doctor decided that her symptoms were related to phlegm-dampness syndrome, taking into account her digestive system symptoms, dizziness, and palpitations, and the worsening of symptoms related to her eating behaviors. Interestingly and unexpectedly, *Xiao Ban Xia Jia Fu Ling Tang* not only improved the somatic symptoms starting in the stomach and chest as expected, but also relieved her anxiety symptoms. Given that stagnation syndrome is similar to functional somatic syndrome in the West [11], *Xiao Ban Xia Jia Fu Ling Tang* may have relieved the somatic symptoms and psychological problems by alleviating the phlegm-dampness syndrome. Also, lifestyle management, such as avoiding snacks as advised by the KM doctor, might have helped alleviate dampness-phlegm.

The individual herbs included in this decoction also have their respective relevance. Although studies of *Pinelliae Rhizoma* in psychiatric fields are lacking, *Banxia Houpu Tang*, which contains this herb as a major component, is used in anxiety neurosis, nervous gastritis, and insomnia [12,13]. In addition, *Banxia Houpu Tang* resulted in significant improvement in functional dyspepsia patients with psychological factors [14], suggesting that HMs with *Pinelliae Rhizoma* as a main component can be applied simultaneously to treat gastrointestinal dysfunction and mood instability. However, more experiments are needed to understand the mechanism of action of this herb, especially on the nervous system. In the case of *Zingiberis Rhizoma Recens*, it has traditionally been used for digestive dysfunctions such as dyspepsia, nausea, and vomiting, and in recent years there is preliminary evidence suggesting antiemetic, anticonvulsant, anxiolytic, and anti-depressant effects of this herb [15–19]. A mechanism study suggested that bioactive components such as shogaol and gingerols in *Zingiberis Rhizoma Recens* may act as partial agonists of the human serotonin 5-HT<sub>1A</sub> receptor, which are responsible for the anxiolytic effect [20]. Lastly, *Poria* has been reported to have various pharmacological activities such as anticancer, anti-inflammatory, antioxidant, and antiviral activities [21]. It has also been used as a main component of *Banxia Houpu Tang* for psychological factors comorbid with gastrointestinal dysfunctions [22]. Taken together, the combination of these three herbs that make up *Xiao Ban Xia Jia Fu Ling Tang* may alleviate anxiety symptoms and improve functional symptoms, especially gastrointestinal discomfort of SSD patients. However, since this report is for a single case, no definitive therapeutic mechanism can be concluded.

This case report is the first to report the effectiveness of HM on the newly-introduced SSD in the DSM-5. In addition, given that somatic symptom burdens are closely related to functional gastrointestinal problems, this report suggests treating phlegm-dampness syndrome with an HM such as *Xiao Ban Xia Jia Fu Ling Tang* may have a positive effect on both conditions. This case report is intended to comply with the standard case reports (CARE) guidelines [23]. However, since this report is for a single case, there is a limit to the possibility of generalization. Furthermore, according to previous pre-clinical studies, *Xiao Ban Xia Jia Fu Ling Tang* may have the potential to improve anxiety symptoms. In this case, the improved somatic symptoms of the digestive system and chest may have reduced the anxiety secondarily. Most importantly, since the KM doctor did not major in psychiatry or psychology, only a putative diagnosis was possible (i.e. suspected SSD) and therefore it was described as a ‘suspected case’. The lack of standardized diagnostic criteria for phlegm-dampness syndrome because of the

characteristics of KM is another limitation of this case report.

#### 4. Conclusion

In conclusion, this case report presents marked improvements of atypical gastrointestinal somatic symptoms and severe anxiety using the HM, *Xiao Ban Xia Jia Fu Ling Tang*, in a middle-aged woman who was presumed to have SSD. It is possible that the decoction affected both the gastrointestinal system and the severe anxiety simultaneously, by eliminating phlegm-dampness syndrome according to traditional medicine theory. However, as this report is only a single case, further studies are needed to confirm this hypothesis. In addition, as few studies have reported anti-anxiety effects of *Xiao Ban Xia Jia Fu Ling Tang*, future researches need to investigate the anti-anxiety potential of the decoction.

#### Conflicts of interest

The authors declare that they have no conflicts of interest.

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#### Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.ctcp.2019.08.009>.

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