

Kampo Medicine - Current Research

Investigation of Clinical Indications of Goreisan in Patients with Epigastralgia in the Summer Season
— From the “Goreisan Symposium 2010”—

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[Abstract]

Teian Azai classically described that summer heat was caused by humidity in addition to hot weather. It may occur after getting chilled while asleep, enjoying the evening cool and taking cold foods and drinks. Humidity and high temperature prevent qi circulation in the stomach. Therefore, he insisted that *goreisan*, a formula improving water circulation, could be applied for diverse symptoms caused by summer heat. We present two cases of patients with epigastralgia caused by cold foods and drinks in air-conditioned environments, whose symptoms were improved by *goreisan*. In prior treatment, *anchusan* in case 1, and *rikkunshito* in case 2 were not effective for their epigastralgia. Nineteen cases of epigastralgia after taking cold foods and drinks in summer, including these two cases, revealed that *goreisan* was efficacious against the summer epigastralgia with white fur on the tongue and a stuck feeling in the pit of the stomach. Abdominal fluid congestion is a major abdominal sign for an indication of *goreisan*, but a stuck feeling in the pit of the stomach appeared in some effective cases of *goreisan*. We concluded that epigastralgia caused by cold foods and drinks with white fur on the tongue and a stuck feeling in the pit of the stomach could be a target for the application of *goreisan*.

[Keywords]

goreisan, epigastralgia, summer heat, cold drinks and foods

[Introduction]

Goreisan is based on ancient Chinese medical books “Shanghanlun” (Treatise on Cold Damage Diseases) and “Jinguiyaolue” (Synopsis of Prescriptions of the Golden Chamber), and is a representative prescription used for all types of “Water toxin”, such as edema, vertigo, headaches, and diarrhea. In clinical practice, it is applied for vomiting, watery diarrhea and other such gastrointestinal colds, as well as for cyclic vomiting, migraine headaches, trigeminal neuralgia, hangovers, vertigo, nephritis, and nephrotic syndrome¹⁾. Signs for using *goreisan* include dry mouth, low urine output, water-counterflow-like vomiting, and splashing sound in the epigastric region¹⁾.

Recently, I saw patients who developed epigastric pain triggered by consuming cold foods during the summer, and improved after taking *goreisan*. There have been no case reports published that described epigastric pain improved by *goreisan*. Thus, a retrospective comparison study was performed, comparing effective cases using *goreisan* with ineffective cases. The study aimed to clarify what types of epigastric pain *goreisan* is effective against.

A) Cases of improvement of epigastric pain by *goreisan*

[Case 1] 47-year-old female care manager

Chief complaint: Epigastric pain

Past medical history: None in particular

History of present illness: From around 2 years ago, the patient’s symptoms of cold sensitivity and menstrual pain had lightened after taking *tokishakuyakusan* and *tokishigyakukagoshuyushokyoto* that was prescribed by the hospital. From mid-July, the humid heat of summer prompted her to frequently consume ice cream and cold beverages in an air-conditioned environment, and she began to experience piercing pains near her stomach. She thus sought medical attention.

Subjective symptoms: The patient complained of thirst, excessive consumption of liquids, epigastric pain, loose stool, and edema in her legs. She experienced no excessive sweating or low urine output.

Physical observations: 155cm, 50kg (BMI 20.8), blood pressure 108/68 mmHg, pulse 68/min.

Normal facial complexion. No vacuous nor forceful pulse. Pale red tongue with a white fur. Medium abdominal muscle strength, and signs of epigastric discomfort and resistance.

Progress: The epigastric pain was thought to be caused by consuming cold foods and beverages. The patient was treated by 7.5g/day of *anchusan* for two weeks containing crude drugs such as *Corydalis Tuber*, *Alpiniae Officinari* Rhizoma, *Amomi* Semen, *Foeniculi* Furctus and *Cinnamomi* Cortex that warm the body and act against stomach pains. However, her symptoms did not ameliorated, and 7.5g/day of *goreisan* was prescribed, focusing on the symptoms caused by “Water toxin”, characteristics of which includes loose stool and edema in the legs. As a result, the patient’s epigastric pain had improved by the time she visited the hospital two weeks later. As her symptoms resolved, the *goreisan* prescription was terminated, but the epigastric pain relapsed the following day, and she was prescribed a continued dose of 5 to 7.5g/day of *goreisan*, and her symptoms have been improving.

[Case 2] 57-year-old housewife

Chief complaint: Epigastric pain, nausea

History of present illness: She had been taking *rikkunshito* for upset stomach due to chronic gastritis, and her symptoms had been contained. However, around July, when the summer heat began to set in, she started to consume cold foods such as ice cream and watermelon, and came to experience epigastric pain and nausea. Her symptoms would lighten somewhat after taking *rikkunshito*, but she sought medical attention, as the epigastric pain and nausea continued.

Subjective symptoms: The patient complained of cold sensation (feet), general malaise, dry mouth, excessive consumption of liquids, loss of appetite, heavy stomach feeling, epigastric pain and nausea. She had regular bowel movement, and experienced no excessive sweating or edema.

Physical observations: 161cm, 54kg (BMI 20.8), blood pressure 118/64 mmHg, pulse 68/min.

Normal facial complexion. No vacuous nor forceful pulse. Pale red and enlarged tongue with a white and greasy fur. Weak abdominal strength, and signs of epigastric discomfort and resistance and splashing sound in the epigastric region. Coldness of extremities was also observed.

Progress: Because *rikkunshito* did not completely improve the patient’s symptoms, her epigastric pain and nausea were thought to be caused by consuming cold foods and beverages. A splashing sound in the epigastric region indicated 7.5g/day of *goreisan*. Two weeks later, her epigastric pain improved, but she continued to take *goreisan*, as she claimed that she felt better when she took *goreisan*.

B) Study of effective and ineffective cases of *goreisan*

Goreisan was administered to 19 patients who complained of epigastric pain triggered by consuming cold foods and beverages, and the effective cases (16 cases) and ineffective cases (3 cases) were summarized in the Table. In all cases, epigastric pain occurred after consuming cold foods and beverages when the weather became hot. The epigastric pain was mostly described as a “heavy pain,” “piercing pain” or “tingling pain.” Among the effective cases, the epigastric pain improved with *goreisan*, after switching from *anchusan* (cases 1, 7, 8, 10), *rikkunshito* (cases 2, 3, 5) and *heiisan* (case 13), which indicated ineffectiveness of these formulae. Among the ineffective cases, epigastric pain and canker sores improved with *orento* and *hangeshashinto*.

No clear different characteristics were seen between patients in the effective and ineffective

groups with regard to such symptoms as thirst, low urine output, diarrhea and edema; however, a significant difference was observed with respect to tongue fur. Among cases in which *goreisan* was effective against epigastric pain, the patients' tongues had a white fur or a white and greasy fur. Among the ineffective cases, the patients' tongues had a yellow fur. Additionally, regarding abdominal findings, patients in the effective group had epigastric discomfort and resistance (15 out of 16 cases) more than they did a splashing sound in the epigastric region (5 out of 15 cases). Furthermore, their epigastric discomfort and resistance ameliorated as their epigastric pain improved.

[Observations]

Two cases were presented in which *goreisan* was effective against epigastric pain accompanying the consumption of cold foods and beverages during the hot summer, and 19 cases were examined to determine the types of epigastric pain *goreisan* is effective against. Among patients who complained of epigastric pain that was triggered by cold foods and beverages, *goreisan* tended to be effective in those who had a white coating on their tongue and displayed epigastric discomfort and resistance in an abdominal examination.

The "Byomeiikai" (Collected Explanations of Disease Names) by Keishu Ashikawa describes damp stroke as a disease caused by summerheat. Damp stroke is divided into "external damp" and "internal damp". The former occurs when the patient is rained upon in a marshy place or goes into the water, while the latter occurs when the patient consumes an excessive amount of foods that are cold raw foods, fruits or noodles, and drinks a large amount of liquor or tea."²

The summer heat section of "Hoikuketsu" (The Clinical pearls of Prescription Collection) by Teian Asai writes, "Summerheat stroke is a common manifestation; however, it occurs often not only by

the summerheat-heat but also by the yin pathogen or unhealthy qi. One gets chilled while asleep and enjoying the cool of the evening, and one is affected by the yin-qi of the night. In addition, one takes raw foods and cold drinks because of hotness, and exterior side receives a yin-cold qi and interior side is harmed by cold foods and drinks. This is seen in 70% to 80% of cases of summerheat-strokes."³ It explains that heat strokes are caused not only by heat but also by humidity, and that seven to eight times out of ten, it is caused by cooling the body, such as by sleeping with chills, sitting out in the cool breeze, or consuming cold foods and beverages.

It also notes, "If the heat enters the exterior, behind which it includes dampness and yin-qi, and water-dampness accumulates inside, it is recommended to administrate medicine for the summer-heat stroke. For this reason, when treating summer-heat, formulae like *byakkoto* will be prescribed for internal and external heat; formulae like *goreisan* for the exterior summerheat and interior dampness; formulae like *seishoekkito* for the exhaustion of source qi and yang-qi. These three methods should be differentiated and combined to treat summerheat"³ It explains that *goreisan* should be used when there are signs of exterior summerheat and interior dampness.

With regard to summer health, "Shiki Choushin Tairon" (Si Qi Tiao Shen Da Lun, On Presenting Health in Accordance with the Four Seasons) of "Huang-di Nei-jing, Su Wen" Chapter 2 contains the phrases "Don't detest the sun" and "Let qi leak, like loving place is outside."⁴ Shibasaki⁵ explains them as meaning that in the summer, one must bask in the sun without disliking the sun, and take care not to be preoccupied with seeking shades, pursuing coolness and avoiding the heat. Furthermore, one must allow the qi inside the body to flow out of the body at all times, and prevent it from being pent up inside the body.

Goreisan is composed of *Alisma* Tuber, *Polyporus* Sclerotium, *Poria* Sclerotium, *Atractylodis* Rhizoma and *Cinnamomi* Cortex. The early yang stage section of “Shang-Han-Lun” contains the passages, “When in greater yang disease, after sweating is promoted and great sweat issues, [if there is] dryness in the stomach, vexation and agitation with insomnia, and a desire to drink water, giving a small amount of water will harmonize the stomach qi so that recovery [will ensue]. If the pulse is floating and [there is] inhibited urination, slight heat and dispersion—thirst, *goreisan* governs it.” And “When sweating has already been promoted, the pulse is floating and rapid, and [there is] vexation and thirst, *goreisan* governs it.”⁶⁾ (This translation is quoted from “Shang Han Lun: On Cold Damage” written by Craig Mitchell et.al, 1999). This means *goreisan* should be used in the early yang stage when consuming fluids mitigates the symptoms of irritability and dry mouth following sweating, but the patient has a floating pulse, abnormal urination, low-grade fever and dry mouth. It also states that *goreisan* is the chief treatment for patients who have yet to sweat sufficiently, whose exterior pattern remains, and who have a sunken pulse and extreme thirst.

Due to the spreading of air conditioners today, we tend closely to “seek shades, pursue coolness and avoid the heat,” as mentioned above, and do not sweat or give vent to our qi enough. At such times when we do not sweat sufficiently when it is hot and allow “dampness” to accumulate in our body, *goreisan* or other such medicine that dissipates fluids becomes necessary.

The summer heat section of “Hoikuketsu” by Teian Asai contains the following passage about *goreisan*, “This prescription is used for all summerheat stroke. ...When it is hot, the closed atmosphere contains dampness. It contains the qi of yin-dampness. Therefore, to eliminate summerheat evil to treat heat stroke, eliminate the heat utilizing

the way of the water. Thirst, oliguria, and stool dysregulation are signs of poor water circulation. The circulation of yang-qi in the Spleen and Stomach is disturbed by dampness, and this is the target of *goreisan*. Understanding its main indication, you can apply *goreisan* to various situations.”³⁾ This means that *goreisan* may be widely used for heat strokes in general to remove fluids that accompany “dampness” when it is hot and hinders the circulation of qi inside the stomach.

Additionally, since *anchusan*, *rikkunshito* and *heisan* were ineffective in half of all effective cases (8/16 cases), it was thought that dissipating “dampness” with *goreisan* is also important to alleviating epigastric pain occurring from consuming cold foods and beverages.

In this study, no certain trend was seen with regard to dry mouth, low urine output and edema, which were considered signs for utilizing *goreisan*, but in cases where *goreisan* was effective against epigastric pain, white tongue coating was observed and epigastric discomfort and resistance was observed in an abdominal examination. In the 16 effective cases that were studied, epigastric discomfort and resistance was more predominant than a splashing sound in the epigastric region, as a result of abdominal examination. The passage, “If there is the palpitations below the heart, give *shashinto*. If it does not heal, *goreisan* governs it”⁷⁾ (This translation is quoted from “Shang Han Lun: On Cold Damage” written by Craig Mitchell et.al, 1999) in the Greater yang disease stage section of “Shang-Han-Lun” states that *goreisan* should be used for epigastric discomfort that cannot be mitigated with *shashinto* preparations. This implies that epigastric discomfort may occur due to fluid disturbance. As a case report on treating abdominal pain with *goreisan*, it is written in “Kohobinran”, “A patient presented with thirst, epigastric palpitations and severe abdominal pain to the level that he could not sit down. Dr. Todo Yoshimasu examined this

patient and said “This is an indication of *goreisan* pattern,” referring to cases in which Todo Yoshimasu successfully treated abdominal pain with *goreisan*⁸⁾. Additionally, Furuya et al. reports on a case in which epigastric pain of unknown cause was alleviated with *goreisan*⁹⁾. In this case, the patient had a gripping pain in the epigastric region, and an abdominal examination found epigastric discomfort and resistance in the same way as other cases in this study, in addition to bilateral rectus abdominis.

As discussed above, the comorbidity of epigastric pain due to consumption of cold foods and beverages, white coating on tongue, and epigastric discomfort and resistance may be signs for the administration of *goreisan*.

[Conclusion]

Heat strokes are caused not only by heat by also by “dampness” that hinders the circulation of qi inside the Stomach and intestine. For this reason, it is important to eliminate the “dampness,” and *goreisan*, which is effective for heat strokes in general, was applied to cases in which epigastric pain occurred on occasion of consuming cold foods and beverages in an air-conditioned environment. In cases of epigastric pain for which *goreisan* was effective, white tongue coating and epigastric discomfort and resistance were observed. Since it is necessary to eliminate the “dampness” to alleviate epigastric pain that is triggered by the consumption of cold foods and beverages, *goreisan* is thought to be an effective prescription.

Supplementary note: *Hachimigan* from Uchida Wakanyaku Ltd. was used in case 18, but all other medical Kampo extract preparations were from Tsumura & Co.

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Table: Breakdown of the 19 cases in which *goreisan* was used for epigastric pain

Case	Age/Sex BMI	Character istics of epigastric pain	Symptoms other than epigastric pain	Underlying disease	Previous prescription (day)	Dry mouth	Excessive consumption of liquids and low urine output	Diarrhea	Edema	Tongue color	Tongue coating	Teeth marks on tongue/ Epigastric discomfort/ Splashing sound in epigastric region/ Other abdominal patterns	Judgment of effectivity
1	47/female 21	Piercing pain	Chronic gastritis	archusan 7.5g	+	+	+	Loose stool	Legs	Pink	White	? + + ?	Effective
2	57/female 21	Heavy pain	Nausea	Chronic gastritis	rikushuho 7.5g	+	+	? ?	? ?	Pink	White and greasy	? + + ?	Effective
3	45/female 21	Heavy pain	Chronic gastritis, Menopausal symptoms	rikushuho 5g + hochuakito 5g	+	+	+	Loose stool	? ?	Pale white	White	+ + + +	Effective
4	26/female 20.0	Piercing heavy pain	Dysmenorrhea	keishibukuryogankayokunin 7.5g	+	+	+	Loose stool	Feet, face	Pink	White and greasy	+ + + ?	Effective
5	24/female 17	Tingling heavy pain	Chronic gastritis	rikushuho 5g + hangokoboku 5g	+	+	+	Loose stool	? ?	Red	White	? + + +	Effective
6	42/female 24	Heavy pain	Vertigo, gastrointestinal weakness	hangebyakujutsuamemato 5g	+	+	+	? ?	Dizziness	Pink	White	+ + + ?	Effective
7	35/female 21	Tingling heavy pain	Anoia, Chronic gastritis	unketo 7.5g + archusan 7.5g	+	+	+	? ?	? ?	Pink	White	+ + + ?	Effective
8	28/female 19	Heavy pain	Atopic dermatitis	archusan 5g + keigirengyoto 5g	+	+	+	? ?	Legs	Pink	White	? + + +	Effective
9	37/female 18	Heavy pain	Premenstrual syndrome	kamisyoyosan 5g + unketo 5g	±	±	±	? ?	? ?	Pink	White	? + + ?	Effective
10	53/female 18	Tingling heavy pain	Chronic gastritis, Menopausal symptoms	archusan 5g + unketo 5g	±	±	±	? ?	? ?	Pink	White	? + + ?	Effective
11	31/female 18	Dull pain	Loss of appetite	hangebyakujutsuamemato 5g	±	+	+	? ?	? ?	Pink	White and greasy	+ + + ?	Effective
12	56/female 21	Piercing pain	Vertigo	kamisyoyosan 5g	±	+	+	? ?	Fingers	Pale white	White	? + + +	Effective
13	43/female 21	Piercing pain	Dysmenorrhea, Chronic gastritis	keishibukuryogankayokunin 5g + heisan 5g	+	+	+	Loose stool	? ?	Pale white	White	+ + + ?	Effective
14	34/female 16.0	Feeling of heavy pain	Chronic gastritis	yokukansan 5g + shakuyakukanzoto 2.5g	±	±	±	Loose stool	? ?	Pink	White	? + + +	Effective
15	42/female 19	Piercing heavy pain	Postoperative breast cancer	Juzentahoto 5g + kamisyoyosan 5g	+	+	+	? ?	Legs	Pink	White	? + + ?	Effective
16	52/female 22	Piercing pain	Postoperative breast cancer	hochuakito 7.5g + kamisyoyosan 7.5g	+	±	±	Loose stool	? ?	Pink	White	? ? ?	Effective
17	41/male 23	Hot pain	Reflux esophagitis	shagyakusan 5g + bukuryougingenjobokuto 5g	+	+	+	? ?	? ?	Pink	Yellow	? + + ?	Ineffective (improved with haugeshashuho)
18	76/male 21	Dull pain	Lumbago	hachimigan 40 pills + yokukansan 5g	+	+	+	? ?	? ?	Dark red	Yellow	? + + ?	Ineffective
19	54/female 19	Heavy pain	Chronic gastritis	rikushuho 7.5g	+	+	+	? ?	Legs	Dark red	Yellow	? + + ?	Ineffective (improved with oreto)

Table : Breakdown of the 19 cases in which *goreisan* was used for epigastric pain