



Korean Medicine Treatment for Dyspepsia and Constipation in a Patient with HIV: A Case Report

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Functional dyspepsia (FD) is a chronic and recurrent upper gastrointestinal symptom that has no organic cause. A 49-year-old male patient positive for human immunodeficiency virus (HIV) visited the clinic because of FD and constipation. He received complex Korean medicine treatment, including acupuncture and herbal medicines, from April 14 to July 18, 2022 (27 times) in the outpatient department. Gastrointestinal Symptom Rating Scale (GSRS), Nepean Dyspepsia Index (NDI), FD-related quality of life (FD-QoL), Euro QoL visual analog scale (EQ-VAS), and Numerical Rating Scale (NRS) were used as evaluation tools in this study. Symptoms were relieved after 3 months of treatment, and his QoL improved (GSRS, 15–3; NDI, 110–21; FD-QoL, 52–20 [eating status, 10–3; liveliness status, 12–8; psychological, 1–0; role-functioning status, 18–9]; EQ-VAS, 40–65; NRS, 8–4). The results revealed that complex Korean medicine treatment could alleviate FD and constipation in patients with HIV.

Keywords: Acupuncture; Dyspepsia; Herbal medicine; HIV; Medicine, Korean traditional

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INTRODUCTION

Functional dyspepsia (FD) is a disease characterized by one or more of the following symptoms: postprandial fullness, early satiation, epigastric pain, or epigastric burning that occurs at least 3 days per week, lasts for at least 3 months, and started at least 6 months ago. Additionally, explaining the organic cause of FD based on related biochemical, endoscopic, and imaging tests is not possible [1]. The prevalence of FD, which is common in clinical practice, is approximately 25% in South Korea. However, FD treatment is difficult because of the presence of various pathophysiological mechanisms, and it may result in a patient's quality of life (QoL) deterioration because of its chronicity [2].

Gastrointestinal symptoms are common in people living with human immunodeficiency virus (HIV) (PLWH), and more than one-third of them complain of various upper gastrointestinal symptoms, such as upper abdominal pain, early satiety, nausea, vomiting, and bloating [3].

However, a clear causal factor for FD has not yet been identified, nor a treatment has been developed. Hence, the need for complementary and alternative medicine, including Korean medicine, is emerging, and related studies have been conducted [4,5].

Korean medicine classifies FD as a digestive ailment or hysteria. FD includes various symptoms such as gastric stuffiness, heart pain, stomach duct pain, nausea, stuffiness and fullness, belching, and acid regurgitation [6]. Many studies have been reported on FD, including clinical studies [7-11] and literature reviews [12]. However, there are no studies on FD in PLWH in South Korea.

Herein, we report the effects of complex Korean medicine on FD in PLWH.

CASE REPORT

1. Medical history

A 49-year-old male patient presented with epigastric and abdominal bloating, early satiation, indigestion, and constipation with no definable cause in November 2021.

He was diagnosed with HIV in 2000 and had been receiving antiretroviral therapy (ART).

He underwent upper gastrointestinal endoscopy and colonoscopy at the Department of Gastroenterology at National Medical Center (NMC) on January 27, 2022, due to his gastrointestinal symptoms, which revealed no abnormalities. Additionally, abdominal computed tomography conducted at Wonju Severance Christian Hospital

was normal as stated by the patient.

2. Treatment

The patient underwent a total of 27 treatment sessions (Table 1).

1) Acupuncture

Disposable sterile acupuncture needles 0.25 × 40 mm (Dongbang Medical Co., Ltd.) were applied to each point for 20 minutes at a time at a depth of 1.5–2 cm.

First to eleventh treatment sessions: Acupuncture was bilaterally applied to SI5, ST41, GB41, and ST43 (Sa-am stomach tonifying acupuncture).

Twelfth to twenty-seventh treatment sessions: Acupuncture was bilaterally applied to KI10, LR8, LU8, and LR4 (Sa-am liver tonifying acupuncture).

2) Herbal medicine

Banhahubak-tang (from April 25 to May 25) and Jowiseunggi-tang (from May 25 to July 18) were prescribed twice daily (Hankooksinyak, Korean Medicine Insurance Extract).

3) Electroacupuncture

Electrical stimulation (1 Hz) was applied to the 2 acupoints and performed for 20 minutes using an 8-channel low-frequency stimulator (GP-302; Goodpl Co. Inc.).

First to eleventh treatment sessions: Standard disposable sterile acupuncture needle 0.20 × 45 mm was applied to CV12 and CV13.

Twelfth to the last treatment sessions: Standard disposable sterile acupuncture needle 0.45 × 90 mm was applied to CV10 and CV12.

4) Cupping and moxibustion

Dry cupping was performed for 5 minutes using disposable cupping cups at the tenderness of the back-shu point. Moxibustion was conducted on CV12 and CV4 indirectly for 15 minutes each.

5) Western medicine treatment

At the time of the first visit to the Department of Ko-

Table 1. Dates of outpatient visits

Month	Date
April	14, 21, 25, 28
May	4, 6, 9, 12, 16, 19, 23, 25, 30
June	2, 8, 10, 13, 15, 20, 23, 27, 30
July	4, 7, 11, 14, 18

rean medicine, he was taking medication from the Department of Infectious Diseases and Gastroenterology. Additionally, he was prescribed medicine by the Department of Dermatology and Urology during the treatment period.

3. Evaluation

The evaluation was done 4 times (April 14, May 19, June 15, and July 18).

1) Gastrointestinal Symptom Rating Scale

The Gastrointestinal Symptom Rating Scale (GSRS) is a questionnaire, consisting of 15 items, that was developed in 1988 and validated for irritable bowel syndrome and peptic ulcer disease evaluation. It can identify the overall upper and lower gastrointestinal symptoms [13].

2) Nepean Dyspepsia Index

The Nepean Dyspepsia Index (NDI) is a tool used to evaluate dyspepsia symptom-specific QoL. It consists of a symptom score table and items on QoL. Only the symptom score table was used in this case [14].

3) Functional dyspepsia related quality of life

FD-QoL, consisting of 21 items, with a higher total score indicating lower QoL, is used to evaluate the effect of FD on the QoL of patients.

4) Euro quality of life visual analog scale

The Euro QoL visual analog scale (EQ-VAS) was used

to subjectively evaluate the health status using the VAS. Zero is the worst imaginable and 100 is the best imaginable health state.

5) Numerical Rating Scale

The Numerical Rating Scale (NRS) was used to numerically identify a patient's subjective discomfort. It indicates the state with no discomfort as 0 and the state with the worst discomfort as 10.

4. Progress

The total GSRS score decreased from 15 points on the first visit to 3 points on the last visit. Only abdominal pain, distension, and a feeling of incomplete evacuation

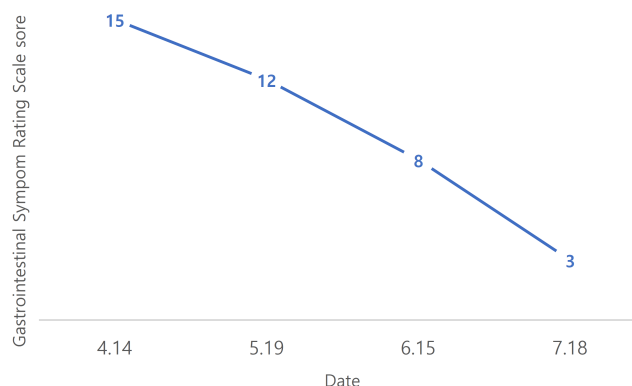


Fig. 1. Changes in the total Gastrointestinal Symptom Rating Scale score.

Table 2. Changes in each item of Gastrointestinal Symptom Rating Scale

Symptom	April 14	May 19	June 15	July 18
Abdominal pain	3	2	1	1
Heart burn	0	0	0	0
Acid regurgitation	0	0	0	0
Sucking sensations in the epigastrium	0	0	0	0
Nausea and vomiting	0	0	0	0
Borborygmus	1	1	1	0
Abdominal distension	3	3	2	1
Eructation	0	0	0	0
Increased flatus	1	1	1	0
Decreased passage of stools	1	1	1	0
Increased passage of stools	1	1	1	0
Loose stools	0	0	0	0
Hard stools	1	1	0	0
Urgent for defecation	2	1	0	0
Feeling of incomplete evacuation	2	1	1	1

Table 3. Changes in each item of Nepean Dyspepsia Index

Symptom	April 14	May 19	June 15	July 18
Upper abdominal pain	11	6	6	3
Upper abdominal discomfort	11	6	6	3
Upper abdominal burning	5	0	0	0
Heart burn	5	0	0	0
Upper abdominal cramps	0	0	0	0
Chest pain	4	0	0	0
Inability to finish regular meal	12	9	7	4
Bitter-tasting fluid that comes to your mouth	8	0	0	0
Fullness after eating	11	7	7	5
Upper abdominal pressure	12	10	3	3
Upper abdominal bloating	12	10	3	3
Nausea	5	0	0	0
Belching	5	3	3	0
Vomiting	1	0	0	0
Bad breath	8	7	0	0

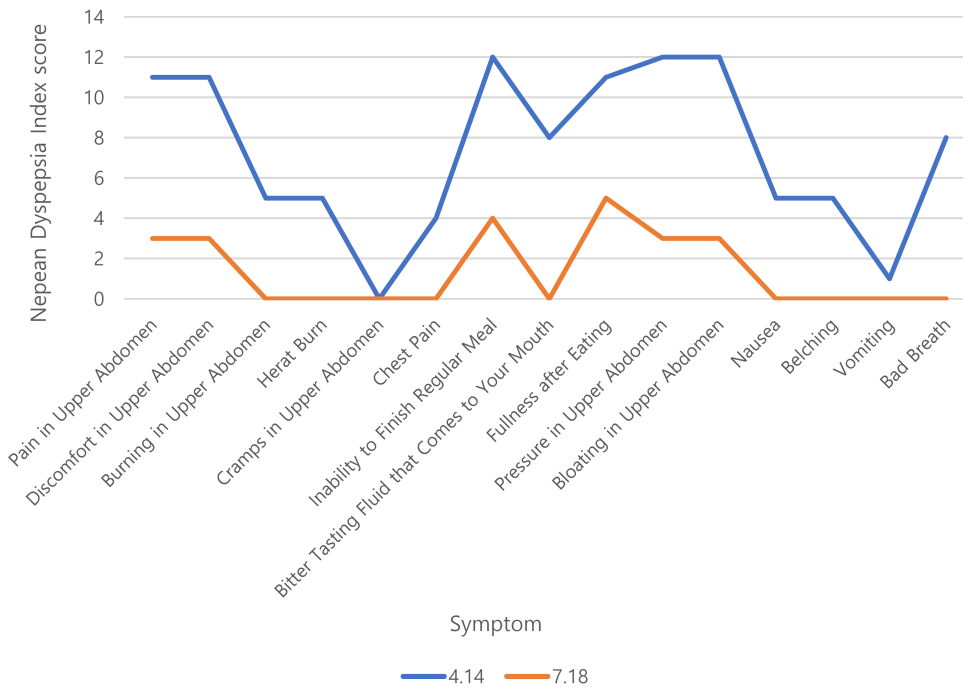


Fig. 2. Changes in Nepean Dyspepsia Index scores at the first visit and the last visit.

Table 4. Changes in functional dyspepsia related quality of life

Category	April 14	May 19	June 15	July 18
Eating status	10	5	5	3
Liveliness status	12	8	8	8
Psychological	12	6	4	0
Role-functioning status	18	12	12	9
Total score	52	31	29	20

scored 1 point each during the last visit evaluation (Table 2, Fig. 1).

The frequency, intensity, and severity of the symptoms noticeably decreased in the symptom evaluation of NDI. The patient demonstrated all the listed symptoms except for upper abdominal cramps, during the first visit. Pain and discomfort in the upper abdomen, inability to finish regular meals, fullness after eating, pressure, and bloating in the upper abdomen remained during the last evaluation, but they were greatly reduced (Table 3, Fig. 2).

The emotional aspect was the largest change among the QoL evaluation items. QoL improved from 12 points before treatment to 0 points after treatment. Additionally, the QoL improved in terms of eating, vitality, and social functioning (Table 4).

The subjective health status evaluation score increased from 40 points on the first visit to 65 points on the last evaluation. The NRS for gastrointestinal symptoms decreased from NRS 8 before treatment to NRS 4 after

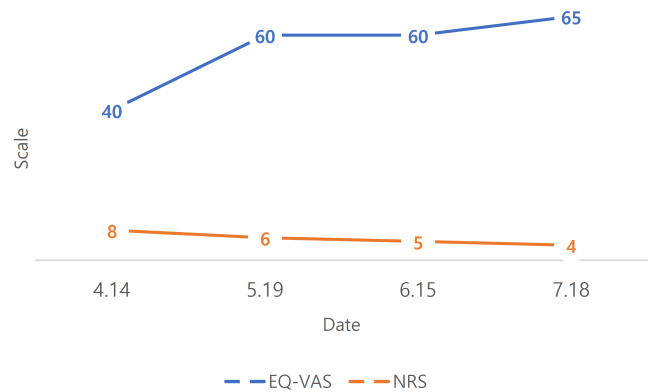


Fig. 3. Changes in Euro quality of life visual analog scale (EQ-VAS) and Numerical Rating Scale (NRS).

treatment (Fig. 3).

DISCUSSION

FD is characterized by chronic epigastric gastrointestinal symptoms with idiopathy. Patients may complain of psychological symptoms, such as anxiety and depression, as well as physical pain because many cases show no response to continuous treatment.

HIV has become a manageable disease and is no longer an incurable disease with highly active ART (HAART) development. However, many PLWH still suffer from complications caused by continuous drug administration and

various symptoms of opportunistic infections [15]. Drug safety in managing symptoms of PLWH should be considered because polypharmacy is associated with physiologic frailty, drug burden, and drug interaction [16]. Non-pharmacological approaches are needed. The study revealed gastrointestinal symptoms, including bloating, heartburn, diarrhea, and constipation, in 50–70% of PWLH [17], and the burden and severity of symptoms are higher than in non-PWLH [18]. The patient reported that his symptoms had started 6 months ago, at which time he underwent tests, which revealed no organic cause. He continued to take gastrointestinal medications, but no symptoms improved. However, the symptoms and QoL improved without adverse effects after receiving Korean medicine treatment for approximately 3 months.

The blood test before and after treatment revealed normal liver function test results, with no interference with CD4 count recovery, which is an immune state indicator (Table 5). This revealed no negative drug interactions between herbal medicine and HAART.

Sa-am acupuncture [19] and electroacupuncture [20] are commonly used in clinical practice for FD and are effective in improving QoL and gastrointestinal symptoms in FD treatment. No study used both Sa-am acupuncture and electroacupuncture for FD, but some studies used both Sa-am acupuncture and electroacupuncture for Mami syndrome [21] and low back pain [22]. The Front-Mu point was selected using the patient's Sa-am acupoint [23].

Table 5. Laboratory finding before and after treatment

Blood test	February 21	September 13	Normal value
Lymphocyte subsets			
CD4 count (%)	2.7	5.1	23.0–48.2
CBC			
WBC (10^3 cell/ μ L)	6.7	7.0	4.0–10.0
RBC (10^6 cell/ μ L)	4.1	4.62	4.2–6.3
Hgb (g/dL)	14.3	16.0	13.0–17.0
HCT (%)	40.9	48.3	39.0–52.0
Liver function test			
AST (U/L)	16	12	0–40
ALT (U/L)	8	7	0–41
Renal function test			
BUN (mg/dL)	13	11	6–20
Creatinine (mg/dL)	0.9	0.9	0.7–1.2

CBC, complete blood count; WBC, white blood cell; RBC, red blood cell; Hgb, hemoglobin; HCT, hematocrit; AST, aspartate aminotransferase; ALT, alanine aminotransferase; BUN, blood urea nitrogen.

Banhahubak-tang is a prescription according to the “Golden Chamber.” It prevents vomiting by down-regulating qi, disperses nodules and stuffiness, and removes distention by circulating qi. Therefore, it can be used for chest stuffiness and fullness, indigestion, and abdominal pain [24]. Previous studies have demonstrated the pharmacological action of Banhahubak-tang using medical imaging [25].

Jowiseunggi-tang is used to treat constipation because it inhibits water reabsorption in the large intestine, promotes intestinal peristalsis, and increases intestinal osmotic pressure [26].

This study has several limitations. First, the patient had to visit a rural area, and the treatment was discontinued without confirming a complete symptom resolution. Second, complex Korean medicine was administered to the patient; therefore, the effects of a single intervention could not be evaluated. Lastly, this study was based on a single case; therefore, generalizing these results is difficult.

However, this case study confirmed that complex Korean medicine treatment could not only relieve symptoms but also improve the QoL of FD and constipation in PLWH. PLWH is decreasing worldwide through various prevention and treatment projects, but it has been steadily increasing in Korea since its first diagnosis in 1985 until 2019 [27]. A Korean medical approach is needed to help symptoms in PLWH.

This is the first case report describing the benefits of complex Korean medicine treatment for FD in PLWH. Further studies are needed to examine the beneficial effects of Korean medicine treatment on various PLWH symptoms.

AUTHOR CONTRIBUTIONS

Conceptualization: JSH, IAY. Data analysis: JSH. Funding acquisition: IAY. Formal investigation: Han-Song Park, Hyun-Seo Park, KHK, HWH, JSH. Methodology: IAY. Writing – original draft: JSH, IAY. Writing – review & editing: All authors.

CONFLICTS OF INTEREST

The authors have no conflicts of interest to declare.

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ETHICAL STATEMENT

The study was approved by the Institutional Review Board of the National Medical Center (NMC-2022-08-098).

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