

# Chronic Levator Ani Syndrome Treated with Traditional Korean Medicine: A Case Report

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### ABSTRACT

This case report highlights the efficacy of traditional Korean medicine in treating chronic levator ani syndrome.

A 47-year-old male suffered from chronic anorectal pain for 14 years. Over the last 5 months, the severity and frequency of the pain increased, and he was unresponsive to Western medicine and acupuncture outside Korea.

The patient reported moderate anorectal pain from early morning until midday, affecting daily efficiency and concentration. The pain was triggered by defecation and alleviated by lying down. He was diagnosed with levator ani syndrome related to "cold symptoms of the liver and kidney - Yin", for which modified *Nangan-jeon* was prescribed. Indirect moxibustion (CV4, Ki1), *Aconitum ciliare* Decaisne pharmacopuncture (GV1, BL33), and acupuncture (HT7, ST36, SP6, LR3, LI4) were also administered weekly. After 8 weeks, the anorectal pain decreased by 2 points on a numeric rating scale, leading to patient satisfaction and return to his home country.

**Key words:** levator ani syndrome, functional rectal pain, traditional Korean medicine

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## I. Introduction

Levator ani syndrome (LAS) manifests as functional pain lasting over 30 minutes in the regions of the rectum, sacrum, and coccyx, presenting as a mixed mode of pain, pressure, and discomfort<sup>1</sup>. LAS is characterized by recurrent or

chronic rectal pain, primarily triggered by prolonged sitting or defecation<sup>2</sup>. The levator ani muscles, composed of the puborectalis, pubococcygeus, and iliococcygeus muscles, provide support to the viscera in the pelvic cavity<sup>3</sup>. LAS is recognized to result from a painful spasm of the levator ani muscles<sup>4</sup>, however its etiology remains unknown as no detectable organic pathology has been identified<sup>4</sup>. Notably, psychosocial distress, such as depression and anxiety, significantly influences LAS in many individuals<sup>5</sup>. Given the increased vulnerability of women to psychological distress<sup>6</sup>, LAS is more prevalent in women, particularly those aged 30-60

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years<sup>7</sup>. According to a national survey in the USA, the prevalence of LAS was 6.6%, with a 1.4-fold higher occurrence in women (7.4%) compared to men (5.4%)<sup>8</sup>.

Various therapeutic approaches, including biofeedback, electrogalvanic stimulations, and digital massage, have been employed to alleviate rectal discomfort. However, the efficacy of these methods is limited in managing LAS<sup>9</sup>. While some advocate transperineal botox injections as a relief method for levator spasm, caution is warranted due to potential contraindications, such as hypersensitivity to botox and concomitant neuromuscular disorders<sup>10</sup>. To date, no singular treatment has proven universally successful for LAS patients, especially those experiencing severe pain unresponsive to the aforementioned interventions.

This study aims to report a case of a chronically refractory LAS patient whose condition significantly improved with traditional Korean medicine (TKM)-based treatments.

## II. Report of the case

### 1. Characteristics of the Patient and Medical History

A 47-year-old man sought medical attention at a Korean medicine hospital due to chronic anorectal pain. The pain, ranging from moderate to sometimes severe, typically manifested during morning defecation and persisted until noon. The severity of the pain diminished when lying down but exacerbated during prolonged periods of standing or sitting. As a consequence of the anal pain, the patient experienced fatigue easily and a reduced work efficacy. Despite visiting multiple hospitals, no specific medical abnormalities were detected through examinations,

and there was no improvement with medications.

The onset of his anorectal pain occurred 10 years ago, with no specific triggering episode except for a past hemorrhoidectomy. The pain persisted for a decade, with sporadic disappearances lasting approximately 2 years. Over the last 5 months, there has been a worsening of both the severity of pain and its duration, despite no changes in triggering factors. The patient has a body mass index (BMI) of 23, abstains from alcohol and smoking, and exhibits a meticulous nature. Additionally, he faces stressors in his role as a university professor outside of Korea. This case study had been approved by the Institutional Review Board for Human Research of Daejeon University Daejeon Hospital (#: DJDSKH-24-E-05-1).

### 2. Diagnosis

Given the absence of any abnormalities in previous hospital examinations and the presence of anorectal pain, the patient was diagnosed with LAS. Examination of the tongue revealed a mild pinkish-white color, and the pulsation was weak and rapid. The patient exhibited slight tenderness and stiffness in the low abdominal area, alleviated by warm application. The author identified the pattern as “liver-kidney deficiency cold (肝腎虛寒)”.

### 3. Treatments and Course of Symptoms

Based on the pattern differentiation, the herbal drug *Nangan-jeon* (暖肝煎) was prescribed with modifications and administered orally twice daily, as detailed in Table 1. In addition to herbal treatment, the patient underwent acupuncture weekly, focusing mainly on bilateral HT7, ST36, SP6, and LR3 acupoints for 20 minutes (using 0.25×30 needles from DongBang Co., Seoul)

Indirect moxibustion (using electric moxibustion from TechnoScience Co., Seoul) was applied at both CV4 and KI1 for 25 min, and 2 mL of *Aconitum Ciliare Decaisne* pharmacopuncture (from GiRin extramural herbal dispensaries, WonJu) was administered at GV1 and BL33 acupoints (Fig. 1). After one week of treatment, self-reported numerical rating scale (NRS) scores indicated a 9-point in

anorectal pain (with 10 representing baseline pain at the initial visit and 0 indicating no pain). By the end of the third week, the pain had decreased by NRS 5. After 8 weeks of treatment, the patient reported a NRS 2 of the anorectal pain, expressing satisfaction. Subsequently, the patient returned to his home country (Fig. 2).

Table 1. Composition of Modified *Nangan-jeon*

Scientific name	Herbal name	Chinese name	Dose*
<i>Lycium chinense</i> Miller	Lycii Fructus	枸杞子	24.0 g
<i>Angelica gigas</i> Nakai	Angelicae Gigantis Radix	當歸	16.0 g
<i>Poria cocos</i> Wolf	Poria Sclerotium	白茯苓	16.0 g
<i>Foeniculum vulgare</i> Miller	Foeniculi Fructus	小茴香	16.0 g
<i>Lindera strichnifolia</i> Fernandez-Villar	Linderae Radix	烏藥	16.0 g
<i>Cinnamomum cassia</i> Presl	Cinnamomi Cortex	肉桂	8.0 g
<i>Saussurea lappa</i> Clarke	Saussureae Radix	木香	4.0 g
<i>Artemisiae Argyi</i>	Artemisiae Agyi Folium	艾葉	16.0 g
<i>Leonurus japonicus</i> Houtt.	Leonuri Herba	益母草	16.0 g
<i>Cyperus rotundus</i> L.	Cyperi Rhizoma	香附子	12.0 g
<i>Rubus coreanus</i> Miq.	Rubus Coreanus	覆盆子	12.0 g
<i>Alpinia oxyphylla</i> Miq.	Alpinia oxyphyllae Fructus	益智仁	12.0 g

\*The indicated dose is weight of each herb for an adult during one day, as a 140 ml decoction after water-boiling for 2 hours (finally divided into 2 of 70 mL for twice administrations)

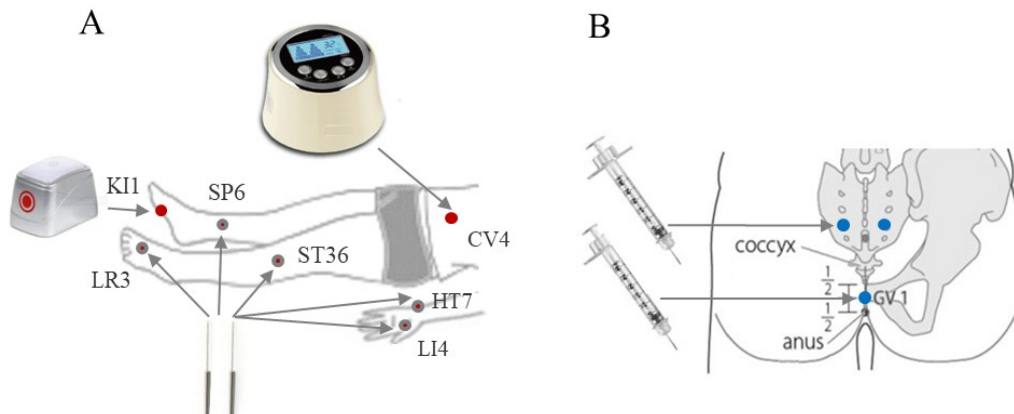


Fig. 1. Acupoints for acupuncture and moxibustion (A) and pharmacopuncture (B).

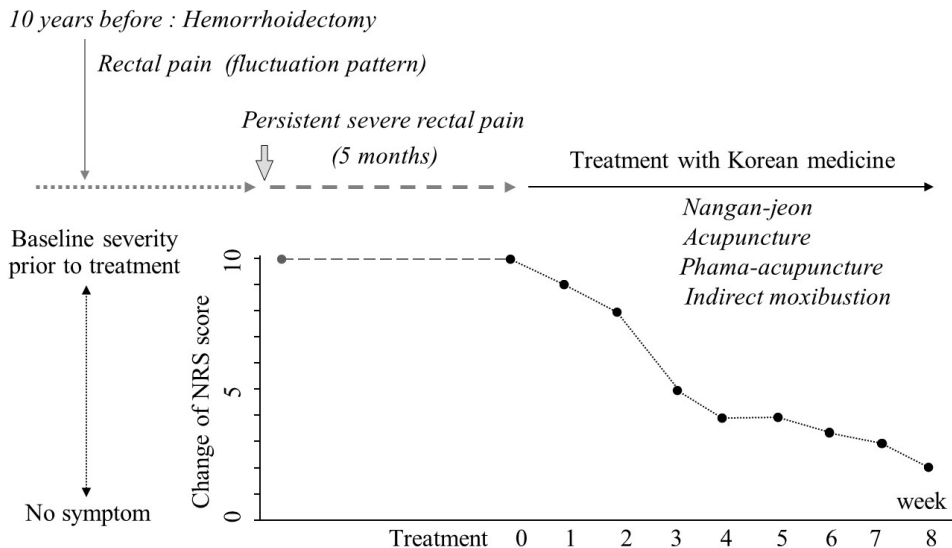


Fig. 2. Summary of clinical courses and treatment outcome.

### III. Discussion and Conclusion

The current study describes a male case of chronic and refractory LAS. The LAS symptoms began without any apparent cause, except for a hemorrhoidectomy performed 10 years ago. While there is limited data available on LAS, chronic anal pain can seldom occur following anorectal surgeries, including hemorrhoidectomy<sup>11</sup>. The patient in this case observed that his LAS commenced at some point after the hemorrhoidectomy, rather than immediately post-surgery. Due to the initially mild nature of the pain, the patient cannot recall precisely when it began, but over the course of 10 years, it progressively worsened.

Although not specific for LAS, there are several therapeutics for anorectal pain including biofeedback or digital massage. The LAS symptom of this case patient had not been improved by any treatments in Western clinics before. The patient had received acupuncture treatments in US due to living in US

as an immigrant, but it was not effective for his pain. He read my case report of a severe woman LAS after hemorrhoidectomy, which was improved by traditional Korean medicine<sup>12</sup>. The anorectal pain of this present patient had been reduced rapidly from just after 1 weeks, and reached to the satisfaction level finishing treatments after 8 weeks (Fig. 2). These choices of treatments were decided based on the diagnosis by Korean medicine system.

While not specific to LAS, various therapies exist for anorectal pain, such as biofeedback or digital massage. In the case of this patient, LAS symptoms had not responded to any treatments in Western clinics previously. Despite receiving acupuncture treatments in the U.S. as an immigrant, the patient found no relief from his pain. After coming across my case report detailing the successful treatment of severe LAS in a woman following hemorrhoidectomy<sup>12</sup>, the present patient decided to explore this approach. Remarkably, the anorectal pain of the current patient significantly diminished

just one week into the treatment, ultimately reaching a satisfactory level by the conclusion of the 8-week treatment period (Fig. 2). These treatment choices were made based on the diagnosis provided by the Korean medicine system.

In the context of treatments derived from Korean medicine, the patient received acupuncture, pharmacopuncture, indirect moxibustion, and herbal decoction. The selection of acupoints aimed at modulating the psychological stress response (HT7), adjusting the threshold of visceral sensation (ST36 and SP6), and enhancing gastrointestinal (GI) motility (both LR3 and LI4) (Fig. 1A). Numerous studies have reported results supporting these applications, including the potential anti-psychological stress effects of HT7<sup>13,14</sup>, as well as the improvement of functional rectal pain or modulation of gut-brain interaction through acupuncture at ST36 and SP6<sup>15-17</sup>. LR3 and LI4, collectively known as Siguan meaning 'four gates,' are specifically applied to enhance GI motility, supported by various clinical evidences<sup>18,19</sup>. Clinical trials have demonstrated the effectiveness of acupuncture in reducing rectal pain after hemorrhoidectomy<sup>20</sup>.

Furthermore, the patient was treated with pharmacopuncture (administered at GV1 and BL33 acupoints) composed of *Aconitum Ciliare Decaisne*, a representative herbal plant known for its anti-pain pharmacological activity<sup>21</sup>. The patient also received a modified *Nangan-jeon* (暖肝煎) (Table 1). This prescription was selected based on the pattern identification of "liver-kidney deficiency cold (肝腎虛寒)", guided by the characteristics of a tender and cold lower abdomen, a pinkish-white tongue color, and weak-rapid pulsation. Described initially in the *Gyeongakjeonseo* (景岳全書), this herbal formula addresses the pathological condition of

'cold symptoms of the liver- and kidney-Yin'<sup>22</sup>. Numerous clinical studies have reported the efficacy of *Nangan-jeon* (暖肝煎) in various applications, such as refractory abdominal pain in the elderly<sup>23</sup> and in patients with Lambert-Eaton myasthenic syndrome<sup>24</sup>. For this particular patient case, several herbs, including *Leonuri Herba* and *Cyperus Rhizoma*, were added to the formula. These additions serve to warm the intestine and provide relief from pain<sup>25,26</sup>.

LAS is recognized as a spasm affecting the Levator ani muscles, including the puborectalis, pubococcygeus, and iliococcygeus muscles. However, a particular study noted a tendency toward hyper-contractile external anal sphincter rather than spasm in LAS<sup>27</sup>. Therapeutic options for LAS encompass various approaches, such as biofeedback therapy, digital massage, sitz baths, diathermy, and muscle relaxants<sup>28</sup>. Nevertheless, some cases remain unresponsive to these treatments, resulting in persistent impairment of daily life. Notably, there are only a few academic reports on the treatment of LAS using TKM, including acupuncture in the United States<sup>29</sup>.

In summary, this case study underscores the clinical potential of TKM-based treatments for refractory LAS. As further clinical applications unfold, TKM could emerge as a common therapeutic option for LAS in the future.

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## 만성적인 항문거근증후군 치료 사례

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### 초 록

**목적:** 본 연구는 임상에서 종종 마주치는 만성적이고 낫지 않는 항문거근증후군 환자의 한의학적 치료 유용성을 공유하고자 한다.

**방법:** 14년 전에 치질수술 후에 발생한 항문통증이 개선되지 않고 지속되어 고통스러웠던 47세 남자 환자의 병력과 한의학적 치료 후의 임상적 개선과정을 자세히 제시하였다.

**결과:** 환자는 평소 건강하였는데, 치질수술 후에 대변을 보면 시작되는 항문통이 발생하였으며, 경우에 따라서는 오전 내내 불편함이 지속되었다. 14년 동안 종종 줄어들기도 하였지만 점진적으로 심해지는 경과를 보였고, 특히 1년 전부터는 더욱 심해졌으나 다양한 치료에도 호전이 없었다. 외국에 거주하는 이유로 한국에 방문하는 기회에 본원에서 한의학적 변증 하에 한약치료 및 약침을 포함하는 침치료와 뜸 치료 후 빠르게 호전되었다. 8주 정도의 치료 후에 NRS 2로 개선되어 만족한 상태로 출국하였다.

**결론:** 본 증례는 특별한 치료법이 부재하는 만성적이거나 혹은 난치성 항문거근증후군에 대하여 한의학적 치료법이 하나의 훌륭한 치료법일 수 있음을 보여주는 임상 예로서 의미가 있다고 하겠다.

**중심어:** 항문거근증후군, 기능성 항문통, 한의학

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