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Case Report

세포교정영양요법(OCNT)을 이용한 간질성 방광염 개선 사례 보고

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A Case Study on the Improvement of Interstitial Cystitis Using Ortho-Cellular Nutrition Therapy (OCNT)

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ABSTRACT

Objective: Interstitial cystitis (IC) is a condition accompanied by symptoms such as lower abdominal pain, urinary urgency, and frequent urination. The prevalence of this condition varies depending on multiple factors, and various causes have been proposed, including abnormal immune responses, mucosal damage, and genetic factors. However, its exact etiology has not yet been clearly identified. Once interstitial cystitis is diagnosed, patients may be treated with nonconservative therapy, pharmacologic treatment, conservative therapy, or surgery. Because the severity and clinical course of symptoms differ widely among patients, it is necessary to identify and apply an appropriate treatment strategy for each individual.

Case Report: The patient in this case was a 35-year-old Korean woman who complained of discomfort in daily life due to urinary frequency and nocturia associated with IC. Therefore, she was treated with OCNT consisting of fennel, *Artemisia annua* extract, *Clostridium butyricum*, fermented wild herb extract, apple cider vinegar, vitamin C, bamboo leaf extract, minerals, and collagen. As a result, from approximately 7 days after initiation of OCNT, she reported improvement in nocturia and urinary frequency, and also noted a significant improvement in her quality of life.

Conclusion: Because this case involves a single patient, there are limitations in applying the same OCNT regimen to all patients with IC. However, it is noteworthy that OCNT may improve bothersome symptoms and enhance quality of life within a relatively short period of time.

Keywords Ortho-Cellular Nutrition Therapy (OCNT), Interstitial cystitis, gut microbiota, mucosal layer

Introduction

Interstitial cystitis (IC) is a condition in which pain occurs in the bladder, pelvis, or lower abdomen and symptoms such as urinary urgency, frequency, and nocturia develop in the lower urinary tract. This disease was first described in an 1879 study of patients with chronic inflammatory damage of the bladder mucosa, and a subsequent study in 1997 found that patients with IC frequently had comorbid chronic conditions such as irritable bowel syndrome (IBS) and chronic fatigue syndrome, suggesting that IC may represent a systemic chronic hypersensitivity syndrome.[1]

The prevalence of IC varies according to several factors, including sex, age, and genetic background. In the United States, the incidence in men is reported to be 8–41 per 100,000, whereas 52–500 per 100,000 women are diagnosed with the condition, indicating a substantially higher prevalence in women. Most cases are diagnosed in middle age or later, but onset can also occur in childhood and adolescence. Furthermore, genetic epidemiologic studies have shown that the prevalence of IC among first-degree relatives of female patients is approximately 17 times higher than that in the general population. As research on IC has progressed and public awareness has increased, the volume of internet searches related to IC has also steadily increased.[2]

In typical cystitis, causes such as urinary tract infection can usually be identified. However, the exact cause of IC is difficult to determine, although several hypotheses have been proposed. These include stimulation of immune cells by inflammation, autoimmune reactions, disruption of the glycosaminoglycan (GAG) layer covering the bladder wall, abnormalities in the metabolism of nitric oxide–related substances, and genetic predisposition. For diagnosis, clinicians assess symptoms such as abdominal or pelvic pain and urinary urgency and frequency,

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perform appropriate tests, and, when necessary, directly examine the inside of the bladder using cystoscopy.[2]

Treatment of IC initially involves conservative approaches such as behavioral therapy, dietary modification, and stress management. If symptoms persist, pharmacologic treatment is introduced, including antidepressants, mucosal protective agents, and antihistamines. When there is no improvement despite these measures, nonconservative options such as bladder hydrodistention, electrocoagulation, and laser therapy may be considered, and in severe cases, surgical procedures such as augmentation cystoplasty may be required. However, because the severity and clinical course of symptoms range from spontaneous resolution within a short period to the need for surgical intervention, it is very important to select and apply an appropriate treatment strategy according to the patient's symptoms and degree of discomfort.[3]

This case involved a 35-year-old Korean woman with IC who complained of discomfort in daily life. OCNT was applied to this patient and was found to have a significant effect on IC symptoms and quality of life. Therefore, this case is reported with the patient's consent.

Case Report

1. Subject

One case of a patient with IC was studied.

1) Name: Choi OO (35 years old / F)
2) Diagnosis: Interstitial cystitis
3) Onset: July 2025
4) Treatment period: November 2025 to present
5) Chief complaints: urinary frequency, frequent nocturia, chronic fatigue, allergic reactions
6) Medical history: pyelonephritis
7) Social history: none
8) Family history: none
9) Current conditions and medications: medications related to hypotension and IBS

2. Methods

• First OCNT (November 1–5, 2025)
- Paragon (101, twice daily, 1 sachet per dose)
- Salty Aqua Lemon (101, twice daily, 1 sachet per dose)
- Apple Vinegar Powder (101, twice daily, 1 sachet per dose)
- Epibiome F granules (101, twice daily, 1 sachet per dose)
- Vivacell C granules (101, twice daily, 1 sachet per dose)
- Debactin fine granules (101, twice daily, 1 sachet per dose)
- Collaplex granules (101, twice daily, 1 sachet per dose)

• Second OCNT (November 6–10, 2025)
- Paragon (101, twice daily, 1 sachet per dose)
- Salty Aqua Lemon (101, twice daily, 1 sachet per dose)
- Apple Vinegar Powder (101, twice daily, 1 sachet per dose)
- Bifido Sanyacho liquid (101, twice daily, 1 sachet per dose)
- Collaplex granules (101, twice daily, 1 sachet per dose)
- Cyaplex X tablets (202, twice daily, 2 tablets per dose)

• Third OCNT (from November 13, 2025 to the present)
- Salty Aqua Lemon (100, once daily, 1 sachet per dose)
- Collaplex granules (101, twice daily, 1 sachet per dose)
- Cyaplex X tablets (202, twice daily, 2 tablets per dose)
- Bioplex F granules (100, once daily, 1 sachet per dose)
- Vivarol (101, twice daily, 2 tablets per dose)
- Viva slim (303, twice daily, 3 tablets per dose)

Results

The patient underwent OCNT because of urinary frequency and frequent nocturia associated with IC. From approximately 7 days after initiation of OCNT, she reported a gradual decrease in the frequency of urination and a reduction in nocturia episodes. By the time the third OCNT course was implemented, her symptoms had improved at a notable rate, and she reported that the discomfort in daily life caused by IC-related symptoms had markedly improved.

Discussion

The patient in this case was a 35-year-old Korean woman who had been experiencing urinary frequency and nocturia that caused significant discomfort in daily life due to IC since July 2025. History taking revealed frequent previous episodes of pyelonephritis, hypotension, and chronic fatigue. Based on her overall condition, OCNT was prescribed with the aim of improving her IC-related symptoms.

On history taking, it appeared that the patient had developed an imbalance in her gut microbiota due to recurrent pyelonephritis and that a chronic imbalance in nutrient intake had led to altered intestinal permeability. This condition was presumed to have persisted and to have affected the outermost GAG layer of the bladder wall, thereby exacerbating the patient's discomfort. Therefore, OCNT was planned to reduce harmful intestinal bacteria, increase beneficial bacteria, and improve the intestinal environment to favor the growth of beneficial bacteria. In addition, nutrients that could help reduce inflammation and promote regeneration of the bladder mucosal cells were to be prescribed. The objectives of this OCNT were set as the following three.

1) Improvement of microbiome composition by suppressing harmful intestinal bacteria and increasing beneficial bacteria.
2) Intake of nutrients to support recovery of the GAG layer in the bladder.
3) motion of mucosal repair by improving inflammatory status and enhancing antioxidant capacity.

To improve the composition of the gut microbiota, it is necessary to suppress harmful bacteria, directly introduce beneficial bacteria, and optimize the intestinal environment. Therefore, Paragon, Epibiome F, and Bifido Sanyacho liquid were prescribed. Paragon contains fennel extract and *Artemisia annua* extract, both of which have long been used as medicinal herbs in traditional medicine. In particular, fennel helps inhibit a variety of Gram-positive and Gram-negative bacteria, fungi, certain viruses, and protozoa, whereas *Artemisia annua* has been reported to help improve the composition of the gut microbiota and strengthen the intestinal barrier.[4,5]

In addition, *Clostridium butyricum* was prescribed to further improve the composition of the intestinal microbiota and the intestinal environment. *Clostridium butyricum* is a beneficial bacterium that produces butyrate, a type of short-chain fatty acid, and is classified as a probiotic. Bifido Sanyacho liquid contains abundant constituents extracted after fermentation of various wild herbs. These two agents have been reported to increase the

proportion of beneficial bacteria and help improve the overall balance of the gut microbiota. They also promote the production of short-chain fatty acids such as butyrate and butyric acid, which helps maintain intestinal mucosal immune homeostasis and contributes to the regulation of inflammation.[6,7]

Next, OCNT was used to promote recovery of cellular barriers such as the intestinal wall and the bladder GAG layer, which were presumed to have been damaged by long-standing symptoms. For this purpose, collagen was prescribed. Collagen accounts for approximately 20–30% of total body protein and about 6% of body weight, and it plays an important role in maintaining the structure of tissues such as skin and bone. When ingested in its native form, collagen is difficult to absorb because of its molecular size. However, when consumed as low-molecular-weight collagen peptides, it is more readily absorbed. This can support tissue regeneration and new collagen deposition in the body and ultimately exert a positive effect on mucosal regeneration.[8]

Finally, nutrients that could help suppress inflammatory responses, enhance antioxidant function, and promote water absorption were prescribed with the aim of improving the patient's overall physical condition. First, apple vinegar was used to suppress systemic inflammatory responses. Apple vinegar has been reported to help reduce blood glucose levels and increase insulin activity. In addition, recent studies have shown that it may exert anti-inflammatory effects by reducing inflammatory cytokines such as interleukin (IL)-6 and IL-8.[9] Furthermore, the patient was instructed to take various minerals, including sodium, calcium, and magnesium, to support water absorption in the body. Appropriate intake of these minerals has been reported to help maintain and preserve body water content. Moreover, they may contribute to adjustment of blood pH and thereby have a positive effect on maintaining overall metabolic balance in the body.[10] These components were provided with Apple Vinegar Powder and Salty Aqua Lemon.

To enhance antioxidant function, Vivacell C and Debactin granules were prescribed. The main active ingredients of these products are vitamin C and bamboo leaf extract, respectively. Vitamin C can directly scavenge free radicals in the body and is involved in regulating inflammatory pathways such as nuclear factor kappa B (NF-κB) and tumor necrosis factor alpha (TNF-α), as well as modulating the activity of antioxidant enzymes such as superoxide dismutase (SOD) and catalase (CAT). Through these actions, vitamin C can help reduce damage caused by reactive oxygen species and may alleviate inflammatory responses and apoptosis.[11] Bamboo leaf extract is known to be rich in phenolic compounds, flavonoids, vitamins C and E, and trace elements such as selenium and zinc. Studies have shown that this extract can have a positive effect on overall antioxidant capacity and may help reduce fatigue by enhancing antioxidant defenses.[12]

Through the OCNT described above, the patient showed improvement in urinary frequency and nocturia, which had previously been bothersome, and reported an increase in quality of life. In particular, it is noteworthy that these improvements were achieved through appropriate OCNT despite her history of recurrent pyelonephritis and frequent allergic reactions. However, because this case involves a single patient, there are limitations in applying the same OCNT regimen to all patients with IC. Therefore, further studies on the application of OCNT in IC are needed. Nevertheless, it is considered meaningful that prescriptions tailored to the patient's condition may help improve symptoms and restore quality of life. Accordingly, this case is reported with the patient's consent.

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