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Case Report

세포교정영양요법(OCNT)을 이용한 항문 주위 농양 및 치루 개선 사례

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A Case Study on the Improvement of Perianal Abscess and Fistula Using Ortho-Cellular Nutrition Therapy (OCNT)

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ABSTRACT

Objective: A perianal abscess occurs when an infection develops in the perianal tissue, specifically the anal glands, leading to the formation of an abscess when bacteria proliferate excessively. Fistula refers to an abnormal connection between the anal glands and the perineum, signifying an inflammatory disease around the anal canal. A perianal abscess requires timely treatment; in most cases, treatment can be done on an outpatient basis. However, surgical treatment is necessary for extensive abscesses, followed by recommended follow-up observations.

Case Report: This case study focuses on a woman in her 60s who experienced perianal abscess and anal fistula. The patient had a history of several surgeries, including a hysterectomy, hemorrhoidectomy (both internal and external), and fistulotomy, and she continued to experience pus-like discharge and persistent anal pain. Therefore, the patient was treated with Ortho-Cellular Nutrition Therapy (OCNT), utilizing anthocyanins, omega-3 fatty acids, psyllium extract, fermented soybean powder, yam powder, and *Zizyphus jujuba Miller* extract. As a result, there was a reduction in pus discharge and pain from the anus, and improvements were observed in symptoms of insomnia, anxiety, and restlessness.

Conclusion: This case study confirmed that the patient's perianal abscess and fistula significantly improved with OCNT. Considering the patient's surgical history, specific conditions, and symptoms, prescribing an individualized OCNT is believed to be meaningful in improving symptoms. However, a limitation of this case is that it was applied to a single patient, and large-scale studies would be necessary to present objective indicators across multiple patients.

Keywords Ortho-Cellular Nutrition Therapy (OCNT), perianal abscess, anal fistula, anthocyanins

Introduction

The anal glands are structures located about 1-2 cm from the anal base, with 4-10 glands at the level of the dentate line, and secrete lubricating substances during defecation. A perianal abscess occurs when the anal glands, part of the perianal tissue, become infected. In particular, due to the gland's fine structure, a foreign substance is prone to stagnation, and excessive bacterial proliferation leads to the formation of an abscess. If the abscess is drained surgically or naturally, the infection may persist, and the epithelialization of the drainage pathway can lead to the development of an anal fistula.[1] Perianal abscess is commonly caused by infections of the anal glands due to microorganisms such as *Escherichia coli*. In addition, inflammatory diseases of the colon, ulcerative colitis, Crohn's disease, tuberculosis, actinomycosis, malignancies, sexually transmitted infections, human immunodeficiency virus (HIV), and malignancies can also be causes of development.[2]

Perianal fistula refers to the formation of a tunnel between the skin due to a perianal abscess and chronic inflammation of the anal glands, resulting in the discharge of fluid through the anal fistula. In other words, it is defined as an abnormal connection between the anal glands and the perineum, representing an inflammatory disease around the anal canal. Half of the perianal abscesses progress to anal fistulas, with Crohn's disease and pelvic inflammatory disease being representative causes of fistulas.[3]

When medical treatment fails, surgery is performed to remove the anal gland tissue and surrounding inflammatory tissue, leading to a difficult surgery and a prolonged treatment period. This can result in an uncomfortable lifestyle during recovery. The surgical treatment methods for fistula include fistulotomy, fistulectomy, seton technique, and sphincter-

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preserving procedures, depending on the location and shape of the fistula.[4]

Perianal abscess should be treated promptly through incision and drainage, and during drainage, the fistula should be kept as short as possible, ideally close to the anus. To prevent the recurrence of acute abscess, the surrounding skin may be excised, and a drainage catheter may be inserted for treatment.[5] In most cases, perianal abscesses can be treated on an outpatient basis. However, bacterial dermatitis, sepsis, and extensive abscesses require surgical treatment, with thorough examination and drainage performed under general anesthesia.[6]

The patient's pain is immediately relieved when a perianal abscess is adequately drained. Subsequently, it is essential to maintain cleanliness around the anus by taking warm sitz baths, and the use of fiber laxatives and pain relievers is recommended. Additionally, ensuring smooth blood circulation around the anus and maintaining immune function should be prioritized. Post-surgery, follow-up observation is essential, as acute abscesses may recur in about 10% of patients, and chronic anal fistulas can develop in up to 50% of patients.[7]

This case study patient had a long history of perianal abscess, which subsequently led to the development of anal fistulas. Despite several surgeries, the patient's discomfort persisted. Therefore, Ortho-Cellular Nutrition Therapy (OCNT) was applied to alleviate the patient's discomfort, ultimately helping the patient overcome both perianal abscess and fistula. Thus, this case report is presented with the patient's consent.

Case Study

1. Subject

A case of perianal abscess was studied.

1) Name: Park OO (60 years old / F)
2) Diagnosis: Perianal abscess and fistula
3) Date of onset: Summer 2021
4) Treatment period: May 2022 ~ November 2022
5) Chief complaints: Pus-like discharge, irritation in the lower anus, pain, depression
6) Medical history: Hysterectomy for endometriosis, hemorrhoidectomy (internal and external), fistulotomy, hypertension, gastritis, insomnia, seasonal depression
7) Social history: None
8) Family history: None
9) Current illness and medications: None

2. Methods

The OCNT applied to the patient is detailed in Table 1. Additionally, the patient was advised to consume sufficient dietary fiber throughout the OCNT period to prevent worsening constipation and to strictly avoid foods that could cause inflammation, such as flour, dairy products, and greasy foods. Sitz baths using mugwort were also recommended.

Results

The patient had previously undergone three internal and external hemorrhoidectomies, and about a year before the OCNT consultation, the perianal abscess progressed, leading to an anal fistula and subsequent fistulotomy. The patient reported that these symptoms began after undergoing a hysterectomy for endometriosis several years ago. As a result, the patient had been living with discomfort for over a year before undergoing OCNT.

After taking the prescribed OCNT for two months, the patient reported significant improvement in her overall physical condition and mentioned being able to overcome the anxiety and nervousness she had been experiencing. Five months after starting the OCNT, she was able to lead an everyday life. The symptoms the patient experienced during the OCNT period are detailed in Table 2.

Table 1. OCNT prescription applied to the patient

Types \ Months	1	2	3	4	5
Cyaplex A Granules	101	101	101	101	101
Eufaplex Alpha Stick	101	101	101	101	101
Collaplex Granules	101	101	101	101	101
Enzaplex Granules	101	101	101	101	101
Bioplex F	101	101	101	101	101
Gastron Granules	101	101	101	101	101
Macalplex Granules	001	-	-	-	-
Jubaplex F Granules	-	-	-	001	-
Cyaplex Mineral Salt	1 sachet per day Mixed with 500cc of water for oral intake				
Aqua SAC pure					
Heartberry Black					
Cyaplex balm	Applied to the affected area 2-3 times per day				

*101: 1 sachet/tablet twice a day, once in the morning and once in the evening; 001: 1 sachet/tablet, once a day in the evening

Table 2. Degree of symptoms experienced by the patient during OCNT. The degree of discomfort perceived by patients increases from 0 to 5.

Symptoms \ Months	1	2	3	4	5
Pus-like discharge	5	3	2	1	0
Pain	3	2	1	0	0
Perianal skin irritation	2	1	1	1	1
Internal and external hemorrhoids	4	2	1	1	0
Anxiety and nervousness	3	2	2	0	0
Insomnia	-	-	2	1	0

0: No symptoms and no impact on daily life
1: Mild symptoms with little to no impact on daily life
2: More noticeable symptoms, requiring slight adjustments in daily activities
3: Symptoms significantly impact daily life, causing difficulty in performing some activities
4: Significant difficulty performing daily activities
5: Severe discomfort in daily life, causing considerable stress

Discussion

The patient, in this case, is a woman in her 60s who had experienced a perianal abscess and the resulting fistula for an extended period. The patient's overall health was compromised due to several past surgeries and conditions such as hypertension and gastritis, and she also complained of depression and insomnia. Therefore, OCNT was attempted to promote bowel activity, minimize inflammation, and alleviate the psychological distress of the patient who had been suffering from the long-term condition.

Cyaplex A, which was prescribed to aid the patient's recovery speed, contains anthocyanins extracted from alginate and aronia, as well as flavonoids derived from various plants. Anthocyanins are water-soluble plant pigments found in various fruits and vegetables, and they play a role in preventing damage caused by reactive oxygen species and improving inflammation.[8] One study found that consuming sufficient anthocyanins resulted in lower inflammatory signals (IS) compared to a group that did not consume them, showing an inverse correlation between anthocyanin intake and inflammatory markers.[9] This suggests that the anti-inflammatory effects of anthocyanins positively impacted the reduction of the patient's perianal abscess and pus-like inflammation.

Perianal abscess is a condition caused by infection in the anal glands, which help lubricate the anus during bowel movements. When an abscess develops, it can cause difficulty in bowel movements, leading to increased rates of anal pain and constipation.[10] The Eufaplex Alpha prescribed to the patient contains various omega fatty acids derived from seeds such as perilla. One study reported that a group consuming perilla oil, rich in omega-3 polyunsaturated fatty acids, showed a significant increase in gut microbiota diversity and a meaningful reduction in constipation scores compared to the control group.[11] As a result, it can be suggested that omega-3 fatty acids influence the gut environment and help alleviate constipation. Additionally, Bioplex F contains psyllium, a dietary fiber that helps ease bowel movements by absorbing water in the intestines and altering the colon environment, making it widely used in treating constipation.[12] Through this prescription, OCNT was provided to improve the constipation caused by perianal abscess and fistula.

Collaplex contains collagen, shark cartilage powder, and hyaluronic acid. Collagen, a key component of the skin, has various benefits, including reversing skin aging, reducing wrinkles, and promoting skin regeneration. It is effective not only for epithelial tissues but also for conditions such as bone defects, sarcopenia, arthritis, and rheumatoid arthritis. When taken orally, collagen improves skin hydration, elasticity, and density, and it particularly benefits the health of the elderly.[13] The patient, in this case, had previously undergone internal and external hemorrhoid surgery and had experienced prolonged perianal abscess and fistula, which led to irritation and pain in the anal skin. Therefore, Collaplex was prescribed to improve the regeneration capacity of the anal epithelium and alleviate the patient's discomfort.

Enzaplex contains papain and various naturally fermented enzymes. Papain, which is extracted from the leaves, fruits, and roots of papaya plants, is a protease that improves the symptoms of various diseases. One study tested the effects of papain on the epithelial cells of mice and humans suffering from atopic dermatitis. In mice, the levels of inflammatory cytokines decreased, and the serum immunoglobulin E (IgE) levels dropped. Additionally, in human epithelial cells, papain improved the survival rate of damaged cells and inhibited the production of reactive oxygen species (ROS), thus playing a role in inflammation regulation. Therefore, the intake of papain has been noticed to have anti-inflammatory effects.[14] This is believed to have helped reduce the inflammation in the patient's perianal glands and contributed positively to skin regeneration.

Gastron Granules contains fermented soybean powder and yam powder. Soybeans, when consumed in their raw form, can cause indigestion. However, they become more favorable for digestion when processed through heat treatment and consumed as fermented soybean powder. Heat treatment reduces the particle size and disulfide bonds of soybeans and increases their surface hydrophobicity, which makes them easier for the digestive system to absorb, thus improving digestibility.[15] In addition, yam powder is also a beneficial ingredient for digestive function. According to a study, yam powder increases the diversity of gut microbiota and enhances the expression of junction proteins in the intestinal mucosa, as well as the activity of glutathione transferase, which can improve intestinal absorption and digestion.[16] Therefore, it was included in the treatment to assist with the patient's existing gastritis.

The formation and maintenance of the skin barrier function are crucial for protecting the body from external threats. Therefore, maintaining the homeostasis of the skin barrier activates skin function and helps protect vital organs and tissues more effectively. Macalplex contains seawater magnesium and seaweed calcium, which are essential ions for maintaining cellular homeostasis. Recent studies have shown that calcium ions are stored in the endoplasmic reticulum (ER) and, through homeostasis, play a role in keratinocyte differentiation and the formation of intercellular junctions. Thus, the release and influx mechanisms of calcium ions in the ER are vital for skin barrier function. Additionally, calcium channels in the phospholipid structure of the epithelium also help maintain homeostasis.[17] Magnesium is one of the most essential minerals that help maintain muscle and nerve function in the human body. Magnesium deficiency can hinder the proper activation of muscle function and lead to pain, as it can cause muscle tension and cramps. Therefore, consuming magnesium to reduce pain and activate muscles is important.[18]

Patients who have experienced long-term illness may face not only physical health issues but also internal health challenges. The patient, in this case, had been suffering from depression due to a perianal abscess over the past year and exhibited insomnia symptoms. Therefore, Jubaplex F was prescribed to improve the patient's psychological stability. This contains *Zizyphus jujuba Miller* extract, which is known to improve insomnia. While ingredients that help with insomnia typically affect the central nervous system directly, *Zizyphus jujuba Miller* has been reported to improve insomnia by restoring the balance of gut microbiota and regulating metabolism.[19] It has also been confirmed that oral intake of *Zizyphus jujuba Miller* reduces sleep latency and increases melatonin levels.[20] This indicates that *Zizyphus jujuba Miller* not only helps improve the gut environment but also has a positive effect on sleep, which likely contributed to the improvement of the patient's depression and insomnia.

The patient had experienced multiple surgeries and had long suffered from perianal abscesses and various other

conditions. An individualized OCNT was prescribed to facilitate improvement and address both the physical and psychological challenges faced by the patient. As a result, the patient reported a significant reduction in pain and discharge following several surgeries, including the fistula incision, and an overall improvement in physical health. However, since this case involved only a single patient, larger-scale studies are needed to apply the findings to other perianal abscess patients, and there are limitations in considering this as an objective indicator. Nevertheless, the significant improvement in symptoms that had been a long-standing source of discomfort for the patient through OCNT is noteworthy. This case is reported with the patient's consent.

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