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Case Report

세포교정영양요법(OCNT)을 이용한 구내염 개선 사례

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

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ABSTRACT
Objective: To report a case of stomatitis improvement through Ortho-Cellular Nutrition Therapy.
Methods: OCNT was administered to a male patient in his 70s suffering from stomatitis symptoms.
Results: After OCNT administration, oral inflammation and glossitis symptoms improved, and the pain was significantly alleviated.
Conclusion: Appropriate application of OCNT for stomatitis can help alleviate symptoms.

Keywords Ortho-Cellular Nutrition Therapy (OCNT), stomatitis, glossitis, aphthous stomatitis

Introduction

Stomatitis refers to relatively widespread inflammatory lesions caused by inflammation of the oral mucosa. It encompasses inflammatory diseases in the oral mucosa, including the lips, tongue, gums, palate, and inner cheeks.[1]

Stomatitis can be classified as primary stomatitis (aphthous stomatitis) when there are no previous lesions or secondary stomatitis (aphthous-like stomatitis) when it occurs due to trauma or ruptured blisters or vesicles.[2]

Stomatitis lesions typically manifest as rashes, erythema, erosions, ulcers, or gangrene. However, in practice, they are often modified by secondary infections, making it challenging to identify the characteristics of each cause.[3]

Causes of primary (aphthous stomatitis) include local physical and chemical stimuli or infections from bacteria such as *Helicobacter pylori*, viruses, and fungi.[4,5] Additionally, infections, smoking, and consumption of certain foods can have an impact.[6]

Causes of secondary (aphthous-like stomatitis) include genetic factors, nutritional deficiencies such as iron, vitamin B6, B12, folic acid, systemic immunosuppression or abnormal conditions, and diseases like diabetes, leukemia, and chronic renal failure. Unhygienic environments, anemia, severe dehydration or shock, prolonged hospitalization, stress, and trauma can also be causes. Patients with blood disorders, sepsis, or wasting diseases are particularly susceptible to gangrenous stomatitis.[7,8]

Unlike primary stomatitis, secondary stomatitis can be caused by repetitive and persistent mucosal trauma, resulting in lesions in the form of traumatic ulcers. Some secondary ulcers can be chronic and may recur, similar to herpetic stomatitis.[2] Other stomatitis diseases of unknown cause include lichen planus and Behçet's disease.[9,10]

This case describes a significant improvement in symptoms following OCNT administration for a patient experiencing discomfort due to stomatitis symptoms. This report is made with the patient's consent.

Case Report

1. Subject
One case of a stomatitis patient was studied.

1) Name: Yoon OO (73 years old/M)
2) Diagnosis: Inflammatory disease of oral mucosa (stomatitis, glossitis)
3) Onset: Mid-2019
4) Treatment period: June 2020 ~ December 2020
5) Chief complaint: Oral inflammation, glossitis, pain, ulcers
6) Past history: Spinal stenosis (lumbar fusion), hemorrhoid (fistula) surgery, six dental implants in progress since mid-2019
7) Social history: None
8) Family history: None
9) Present illness and current medications: Prescribed medications related to hypertension, type 2 diabetes, angina, prostatitis, and hemorrhoids (fistula).

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2. Method

Detailed OCNT prescription for the patient is shown in Table 1.

Table 1. OCNT prescription details applied to the patient.

Months / Product Name	1	2	3	4	5	6 ~ Present
Cyaplex X (granules)	101	101	101	101	101	100
Eufaplex (stick)	101	101	101	101	101	-
Tmplex (stick)	010	101	-	-	-	-
Heartberry black	101	101	101	101	101	100
Macalplex	-	-	001	001	001	-
Bioplex F	-	-	101	101	101	-
Enzaplex	-	-	101	101	101	-

* 100: Once daily, one capsule/sachet in the morning; 010: Once daily, one capsule/sachet at lunch; 001: Once daily, one capsule/sachet in the evening; 101: Twice daily, one capsule/sachet in the morning and evening

Results

Before OCNT administration, the patient complained of discomfort due to typical stomatitis symptoms such as inflammation, glossitis, and pain. Therefore, an appropriate OCNT was prescribed to induce symptom improvement.

One month after OCNT application, not only stomatitis-related symptoms such as oral inflammation, glossitis, pain, and oral ulcers but also skin inflammation at the lumbar fusion surgery site, which had been a pre-existing complaint, significantly improved.

As the oral inflammation condition improved, regular dietary nutrition supplementation led to an increased rate of improvement. At the 5-month point, the patient reported almost no discomfort from stomatitis-related symptoms. The degree of symptoms experienced by the patient during OCNT is detailed in Table 2.

Table 2. Indicators of symptoms experienced by the patient during OCNT. The higher the number from 0 to 5, the greater the discomfort felt by the patient.

Months / Symptom	1	2	3	4	5
Oral inflammation	5	2	1	0	0
Glossitis	5	2	1	0	0
Pain	5	2	1	0	0
Oral ulcers	5	2	1	0	0
Hemorrhoid symptoms	4	2	1	1	1
Inflammation at lumbar surgery site	4	1	1	0	0
Intestinal gas	3	3	2	1	0

* 0: No symptoms and no impact on daily life, 1: Mild symptoms with almost no effect on daily life, 2: Some symptoms with slight inconvenience in daily life, 3: Symptoms significantly affect daily life, with some activities being uncomfortable to perform, 4: Great difficulty in performing activities in daily life, 5: Activities are almost impossible, causing significant inconvenience in daily life.

Discussion

The case subject was a Korean in his 70s suffering from stomatitis. The patient reported that he had been undergoing long-term implant treatment for a year, during which oral inflammation and pain had worsened. Upon observation, severe stomatitis and glossitis were noted, and it was suspected that aphthous stomatitis had developed which can occur after implant procedures.[11] The patient also reported that normal eating was impossible, suggesting a state of nutritional imbalance.

While the etiology of aphthous stomatitis is not yet fully understood, it is likely associated with primarily cell-mediated inflammation, including T-cell and TNF-α production, or it could be due to bacterial infection. This is also related to decreased members of the core microbiome (normal oral flora) in patients with aphthous stomatitis.[12] For these reasons, OCNT was implemented to reinforce the patient's immunity, reduce inflammation, and restore the oral microbiome to a normal state.

Anthocyanins in Cyaplex X, extracted from *Aronia melanocarpa*, contain cyanidin glycosides such as cyanidin-3-O-galactoside (Cy-3-Gal), which have potent antioxidant capabilities and immune-enhancing effects.[13]

Omega-3 in Eufaplex, including EPA and DHA, can directly reduce inflammatory responses through membrane receptors (GPR120) of inflammatory cells. They can also inhibit the early stages of inflammatory signaling by reducing NF-κB activation.[14]

Supplementing zinc, one of the trace minerals in Tmplex induces polymorphonuclear leukocyte (PMN) chemotaxis, where immune cells follow chemical signals released from infection sites and promote phagocytosis. It can also help inhibit IL-1β-dependent inflammatory responses.[15]

Selenium deficiency reduces lymphocyte response to cell division and impairs leukotriene B4 synthesis for neutrophil chemotaxis in macrophages. This indicates diminished defense against viruses and bacteria. It also leads to decreased IgG and

IgM antibodies, increasing infection vulnerability. Therefore, selenium was supplemented through Tmplex.[16]

Manganese helps increase macrophage survival rates, prevent cell death, and is associated with a reduction in reactive oxygen species (ROS) and nitric oxide (NO).[17]

As previously mentioned, Cyanidin glycosides in Heartberry black function as an antioxidant and boost immunity. Polyphenols regulates immune function through epigenetic changes by influencing essential factors that control immune cell activation and differentiation. They also reduce inflammatory responses by suppressing inflammatory gene expression and regulating DNA methylation and histone modification.[18]

Magnesium deficiency has been reported to increase inflammatory cytokines (IL-6, TNF-α) and is associated with activating immune cells such as macrophages, neutrophils, and endothelial cells. It can also negatively affect the immune system by inducing apoptosis, promoting thymic atrophy, and causing splenomegaly and leukocytosis. Therefore, magnesium was supplemented through Macalplex to prevent these symptoms.[19] These nutrients have been used to induce a patient's overall immunity enhancement and reduced inflammation.

Consuming dietary fiber from Bioplex F results in positive changes to the oral microbiome. It reduces the proportion of harmful oral bacteria and increases beneficial bacteria, such as *Akkermansia mucinophila*, which is known to be associated with inflammation reduction and metabolic disease prevention. [20] This is thought to have helped restore the oral microbiome to normal.

Various digestive enzymes in Enzaplex were added to revive digestive functions that had deteriorated due to long periods of improper eating.[21]

Through this OCNT, the patient's pain and discomfort significantly decreased after one month of administration, enabling normal eating. From this point, it is believed that the patient's nutritional status rapidly recovered, and residual symptoms improved in the near future.

While this case report is not universally applicable to all stomatitis patients, it confirms that after simple OCNT administration, stomatitis symptoms significantly improved, and the patient's quality of life greatly enhanced. Therefore, with the patient's consent, this case is being reported.

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