

세포교정영양요법(OCNT)을 이용한 퇴행성 관절염 개선 사례

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A Case Report of the Improvement in Degenerative Arthritis Using Ortho-Cellular Nutrition Therapy (OCNT)

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ABSTRACT

Objective: Degenerative arthritis is a disease that causes degeneration and inflammation in the articular cartilage, subchondral bone tissue, and synovium. The articular cartilage reduces friction between bones and provides a surface capable of bearing heavy loads; therefore, when degenerative arthritis occurs, pain appears in the joint. Diagnosis is made through findings on conventional radiography, such as joint space narrowing, osteophyte formation, subchondral sclerosis, and cysts, and its prevalence increases with aging.

Case Report: This case study involved a male patient in his 80s diagnosed with degenerative arthritis who underwent Ortho-Cellular Nutrition Therapy (OCNT) for six months. The patient experienced a sensation of heat in the dorsum of the foot and severe pain in the knees and shoulders. Nutrients were prescribed, including anthocyanin, omega-3 fatty acids, selenium, and MSM. As a result of consistently taking the nutrients prescribed through OCNT, the patient reported improvement in the pain in his knees and shoulders.

Conclusion: This case study confirmed that symptoms improved and quality of life was enhanced within a short period through personalized treatment. However, additional validation through clinical research is considered necessary for general application to patients with degenerative arthritis.

Keywords Ortho-Cellular Nutrition Therapy (OCNT), degenerative arthritis, inflammation, anthocyanin, MSM

Introduction

Degenerative arthritis is a disease that causes degeneration and inflammation of the articular cartilage, subchondral bone tissue, and synovium, and it is the most common form of arthritis. The articular cartilage is a smooth cartilage located at the ends of long bones and within intervertebral discs, reducing friction between bones and providing a surface capable of bearing heavy loads. When degenerative arthritis occurs, joint pain arises, caused by inflammation of the synovium, stretching of the joint capsule or ligaments, nerve stimulation at the periosteal endings, and muscle spasms. Joint dysfunction appears as pain during joint movement and structural changes, mainly occurring in weight-bearing joints such as the hip, knee, cervical spine, and

lumbar spine, and it can also affect the metacarpophalangeal and distal interphalangeal joints.¹

Degenerative arthritis is diagnosed based on clinical symptoms, including pain, stiffness, and functional impairment. It is confirmed through X-ray examination, which is also used to differentiate it from other diseases. Conventional radiography shows findings such as joint space narrowing, osteophyte formation, subchondral sclerosis, and cysts, which allow diagnosis of degenerative arthritis. The affected area initially undergoes atrophy, and as the disease progresses, localized thickening leads to osteophyte formation. The articular cartilage gradually degenerates and is lost until the subchondral bone tissue is exposed, after which atrophy of the bone marrow progresses. In severe cases, the femoral head may be lost.²

The most critical risk factor for degenerative arthritis is aging, with prevalence increasing in the knees, hips, and fingers as age advances. Generally, arthritis begins to develop in individuals in their 30s to 40s, with a higher frequency observed in those in their 50s to 60s. Globally, it is estimated that about 9% of men and 18% of women aged 60 and older experience degenerative arthritis. According to one osteoarthritis study, the prevalence rises to approximately 44% in the population aged 80 and above.³ In addition to age, major risk factors for

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degenerative arthritis include genetic factors, obesity, endocrine substances, gender, joint trauma, and cartilage damage.⁴

Joints affected by degenerative changes cannot be fully restored to their normal state. Therefore, to improve symptoms of arthritis, weight loss is recommended to reduce the load on the knee joints, or physical therapy methods using braces are applied. Pharmacological treatment involves prescribing NSAIDs and acetaminophen to alleviate symptoms through conservative therapy. However, in severe cases of degenerative arthritis, joint replacement surgery is performed. This is considered the standard treatment for patients with severe osteoarthritis or those who do not respond to conservative therapy. Modern surgical techniques use multiple approaches to control the patient's pain effectively. To prevent degenerative arthritis, it is essential to strengthen the muscles around the joints and maintain the range of motion through moderate exercise, reducing stress on the joints and slowing degenerative changes.⁵

The patient in this case study reported lower limb weakness due to advanced age and occupational factors, accompanied by knee and shoulder pain. Ortho-Cellular Nutrition Therapy (OCNT) was prescribed to alleviate the patient's pain and improve quality of life. Accordingly, with the patient's consent, this case study is presented.

Case Study

1. Subject

This case study involves a patient with degenerative arthritis.

- 1) Name: Jeong OO (86 years old / M)
- 2) Diagnosis: Degenerative arthritis
- 3) Date of onset: January 2015
- 4) Treatment period: November 25, 2021 – June 2022
- 5) Chief complaints: Knee pain, lower limb weakness, heat sensation in the dorsum of the foot, shoulder pain
- 6) Medical history: Hearing loss in the right ear, bronchial weakness, hypertension
- 7) Social history: None
- 8) Family history: None
- 9) Current illness and medications: None

2. Method

Cyaplex X Granules (101, twice daily, 1 sachet per dose)
 Eufaplex Alpha Stick (101, twice daily, 1 sachet per dose)
 TMplex F Granules (001, once daily, 1 sachet per dose)
 Sulfoplex PK Tablet (303, twice daily, 3 tablets per dose)

OCNT, as described above, was administered for approximately six months, and Sulfoplex PK Tablet was additionally prescribed at four tablets as needed.

Results

The patient reported severe pain in the knees and shoulders, along with a sensation of heat in the dorsum of the foot. Accordingly, OCNT was implemented to alleviate the patient's pain and discomfort. After two months of OCNT, the patient's lower limb weakness and the sensation of heat in the dorsum of the foot were alleviated. Subsequently, after six months of continuous intake of the nutrients prescribed through OCNT, the patient reported a marked improvement in knee and shoulder

pain. The indicators of the symptoms experienced by the patient are detailed in Table 1.

Table 1. The severity of symptoms experienced by the patient during OCNT. The level of discomfort increases from 0 to 5.

Months Symptoms	1	2	3	4	5	6
Knee pain	4	3	2	1	1	1
Shoulder pain	4	3	2	1	1	0
Lower limb weakness	4	2	1	1	1	1
Heat sensation in the dorsum of the foot	4	2	1	0	0	0

0: No symptoms and no impact on daily life at all; 1: Mild symptoms with little impact on daily life; 2: More noticeable symptoms requiring some adjustment in daily life; 3: Symptoms significantly affect daily life, causing difficulty in performing some activities; 4: Great difficulty performing activities during daily life; 5: Discomfort in daily life with severe stress caused by symptoms

Discussion

The subject of this case study is a Korean male in his 80s who had been suffering from degenerative arthritis for an extended period. Despite his advanced age, he continued to work on a farm alone, which led to complaints of lower limb weakness, knee pain, shoulder pain, and a sensation of heat in the dorsum of the foot. To relieve the pain, the patient received acupuncture treatment at an oriental medicine clinic and symptomatic treatment at a conventional hospital. However, the joint pain gradually worsened, prompting him to visit a pharmacy. Taking into account the patient's occupational characteristics and symptoms, a treatment direction using OCNT was established to reduce pain and improve quality of life.

Degenerative arthritis is a disease in which inflammation occurs in the articular cartilage due to various factors. Nutrients that can reduce inflammation were prescribed to address the underlying cause of joint pain. According to several studies, consuming foods rich in anthocyanins has been reported to improve joint health. When anthocyanins were administered to experimental animals, they were found to help preserve cartilage structure and increase the pain threshold associated with inflammation. In addition, anthocyanins have been shown to suppress the activation of inflammatory signaling in chondrocytes exposed to various stimuli, such as cytokines and reactive oxygen species.⁶ Cyaplex X Granules are rich in anthocyanins, natural pigments derived from plants. Therefore, anthocyanins were prescribed to suppress inflammation and alleviate the patient's pain.

Another component with anti-inflammatory effects is omega-3. Omega-3 contains polyunsaturated fatty acids and has a positive impact on reducing inflammatory markers and cartilage loss in degenerative arthritis. The omega-3 fatty acids DHA and EPA regulate specific inflammatory response mechanisms, produce resolvins that control inflammation and catabolic reactions, and inhibit chondrocyte apoptosis caused by

oxidative stress. Additionally, the polyunsaturated fatty acids in omega-3 suppress the expression of MMP13, which induces the breakdown of connective tissue and lower the concentration of interleukin-1, a type of cytokine, thereby regulating the inflammatory response.⁷ Eufaplex Alpha Stick, which is prescribed to the patient, contains omega fatty acids. This prescription was intended to alleviate the patient's cartilage loss and have a positive effect on the joint inflammatory response.

TMplex F Granules contains several mineral components, such as selenium, chromium, and zinc. Recent studies have reported that selenium intake may exhibit anti-arthritis effects. Selenium is an essential mineral for the body, primarily protecting cells through antioxidant activity. According to a cellular experiment in one study, selenium reduced the expression of major inflammatory factors, inducible nitric oxide synthase (iNOS) and cyclooxygenase-2 (COX-2). It was also reported to suppress the production of reactive oxygen species and increase the expression of collagen and aggrecan (ACAN), key components of cartilage.⁸ Therefore, selenium was prescribed to the patient to influence cartilage formation and improve joint inflammation positively.

A key nutrient that significantly affects the improvement of arthritis is methylsulfonylmethane (MSM). MSM is a naturally occurring organic sulfur compound known for its anti-inflammatory effects, primarily benefiting joint health, and it is also reported to reduce symptoms of seasonal allergic rhinitis. Clinical trials involving middle-aged and older adults have shown that continuous intake of MSM reduced participants' joint pain and decreased MDA levels. MDA damages DNA through lipid peroxidation and can activate genetic mutations. Additionally, as an indicator of oxidative stress, MDA induces inflammation in the body. Therefore, the reduction of MDA through MSM intake suggests a positive effect on the inflammatory response of degenerative arthritis.⁹ Sulfoplex PK Tablet contains a high amount of MSM. Therefore, this nutrient was prescribed to improve the patient's joint pain and alleviate the inflammatory response.

The patient had degenerative arthritis for about 10 years. Through six months of OCNT aimed at improvement, the patient reported relief of lower limb weakness, reduction of joint pain, and decreased heat sensation in the dorsum of the foot. This case confirmed improvement within a short period through personalized prescription.

This case study requires validation through clinical research to be generally applicable to patients with degenerative arthritis. However, considering that OCNT relieved symptoms and improved the quality of life in the patient, it is regarded as a meaningful result. Accordingly, this report is presented with the patient's consent.

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