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Case Report

세포교정영양요법(OCNT)을 이용한 건성 황반변성 개선 사례

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

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ABSTRACT

Objective: This report aims to evaluate the effects of Ortho-Cellular Nutrition Therapy (OCNT) on symptom improvement and functional recovery in a patient with macular degeneration.

Case Presentation: A 60-year-old Korean woman presented with macular degeneration, complaining of reduced visual acuity, ocular discomfort, and dryness. She underwent OCNT for six months, which included various nutrients such as antioxidants, omega-3 fatty acids, and carotenoids. After treatment, the patient experienced significant symptom improvement, and ophthalmological examinations confirmed stabilization of macular health. The patient no longer reported discomfort due to vision decline in her daily life, and her quality of life improved.

Conclusion: This case suggests that OCNT may positively impact symptom relief and functional recovery in macular degeneration. Supplementation with antioxidants and carotenoids may play a crucial role in maintaining macular health. However, large-scale studies are necessary to generalize these findings.

Keywords Ortho-Cellular Nutrition Therapy (OCNT), macular degeneration, antioxidants, carotenoids, ocular health

Introduction

The macula, located at the center of the retina, plays a critical role in the neural layers of the eye and contains a dense concentration of photoreceptor cells that respond to light stimuli. Various factors can cause degeneration in the eye tissues, among which macular degeneration is a leading cause of visual impairment.

The expression "degeneration has occurred in the macula" refers to the loss of the macula's highly specialized function of detecting light. This is particularly common in age-related macular degeneration (AMD), where the macula deteriorates and loses its function due to various aging-related factors. In some individuals, along with aging, genetic causes (family history), smoking habits, arteriosclerosis, hypertension, and damage caused by light exposure can promote degeneration in the macula.[1]

As macular degeneration progresses, symptoms such as vision loss, metamorphopsia (distorted vision), and central scotoma (blind spot in the center of vision) may appear. Macular degeneration is considered one of the significant causes of blindness in the elderly, accounting for approximately 80% of cases.[2]

Based on pathological mechanisms, macular degeneration is classified into wet and dry types. Approximately 80–90% of macular degeneration cases are dry macular degeneration, which results from atrophic changes in the retinal pigment epithelium, while the remaining cases are classified as wet macular degeneration.[3] Wet macular degeneration involves the formation of new blood vessels beneath the retinal pigment epithelium, leading to hemorrhage or exudation, and requires active treatments such as laser photocoagulation or anti-VEGF injections. In contrast, dry macular degeneration is caused by metabolic waste products (drusen) that lead to retinal atrophy, gradually impairing vision. To date, no precise or targeted treatment has been identified for managing this condition.

In this case study, the patient is a woman in her 60s who was previously diagnosed with dry macular degeneration and experienced vision loss and ocular discomfort, which affected her daily life. Ortho-Cellular Nutrition Therapy (OCNT), utilizing nutrients that may contribute to antioxidant effects and functional recovery, was applied, and the progress is reported here.

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Case Study

1. Subject

This case study involved a single patient diagnosed with dry macular degeneration.

1) Name: Ryu OO (60 years old / F)
2) Diagnosis: Dry macular degeneration
3) Date of onset: July 2022
4) Treatment period: January 5, 2023, to July 2023
5) Chief complaints: Vision loss, ocular discomfort, dry eyes, anxiety
6) Medical history: Angina, arrhythmia, hyperlipidemia, gastritis, elbow pain
7) Social history: None
8) Family history: None
9) Present illness and current medications: None

2. Method

The OCNT was administered using the following regimen:

Cyaplex X granules (101, Twice a day, 1 packet per dose)
Eufaplex sticks (101, Twice a day, 1 packet per dose)
Caroplex granules (101, Twice a day, 1 packet per dose)
Collaplex granules (101, Twice a day, 1 packet per dose)
Notoplex granules (101, Twice a day, 1 packet per dose)
Magplex capsules (202, Twice a day, 2 capsules per dose)
Sulfoplex PK tablets (202/303, Twice a day, 2 or 3 tablets per dose as needed)

Results

The patient in this case study experienced a rapid decline in vision and underwent an eye health checkup around July 2022. Retinal examination revealed the accumulation of small, round, yellowish-white substances called drusen in the retinal pigment epithelium, indicating the progression of vision loss and leading to a diagnosis of dry macular degeneration. Dry macular degeneration initially presents with few symptoms, but central vision gradually deteriorates over time, making early detection difficult. After being informed that there were no specific treatment options available, the patient, who had previously experienced symptom improvement for angina and arrhythmia through OCNT, decided to continue taking related nutrients to improve macular degeneration.

Over the following six months of OCNT, the patient experienced reduced ocular discomfort and dryness. Ophthalmic examination showed significant improvement in macular degeneration, and the patient no longer felt anxious. Currently, the patient does not experience any vision loss due to macular degeneration and continues to show signs of symptom improvement.

Discussion

In dry macular degeneration, drusen, which are protein-lipid waste products, accumulate beneath the retina and are known to be one of the leading causes of retinal pigment epithelium dysfunction and photoreceptor (light-sensitive cell) atrophy. The clinical significance of drusen varies depending on their size, shape, and number, with small soft or hard drusen being observed in individuals over 50. Reports indicate that as age increases, the frequency and size of drusen gradually increase, which is closely related to the decline in antioxidant capacity due to aging. The body's reduced ability to remove reactive oxygen species results in the accumulation of waste products around the retinal pigment epithelium and Bruch's membrane, which can accelerate the pathological mechanism of dry macular degeneration.[4]

Dry macular degeneration is a process in which retinal tissue gradually atrophies, and there is no definitive treatment. According to a study conducted by the National Eye Institute (NIH), supplements containing antioxidant vitamins (C and E), lutein, zeaxanthin, zinc, and copper can moderately delay the progression of moderate to advanced AMD. The intake of lutein/zeaxanthin and omega-3 is also recommended.[5] Additionally, it is suggested that reducing exposure to intense light (such as blue light) can help alleviate retinal damage.[6]

From this perspective, supplying anthocyanins through Cyaplex X may help improve the patient's symptoms. In a previous study, after inducing inflammation in the eyes of animals, regular intake of anthocyanins from berries significantly reduced nitric oxide (NO) levels, decreased oxidative stress-related damage, and enhanced antioxidant capacity.[7] Additionally, methylsulfonylmethane (MSM) is reported to regulate the expression of nitric oxide synthase, reducing the release of nitric oxide and boosting antioxidant capacity.[8] These results suggest that enhancing antioxidant capacity may positively impact functional recovery.

Additionally, the intake of carotenoids (particularly lutein/zeaxanthin) may help improve AMD. According to the Age-Related Eye Disease Study 2 (AREDS2), supplementation with lutein/zeaxanthin may significantly lower the risk of progression in AMD. In the lutein/zeaxanthin supplementation group, the hazard ratio (HR) for the risk of late AMD was 0.82 (95% CI, 0.69–0.96, P=0.02), which represents an 18% lower risk compared to the non-supplementation group.[9] Moreover, a study has reported that groups with higher intake of carotenoids (lutein/zeaxanthin) showed significantly lower AMD risk.[6] Lutein/zeaxanthin is concentrated in the central retina and contributes to retinal protection by blocking blue light and alleviating oxidative stress. These findings support the consideration of lutein/zeaxanthin as an important nutrient for the prevention and progression inhibition of AMD.

Omega-3 may help alleviate ocular dryness in patients. A previous study reported that administering omega-3 to patients with dry eye disease for approximately 12 weeks improved tear film stability and subjective symptoms.[10] Additionally, when lutein/zeaxanthin supplementation was combined, there was a tendency to suppress the progression of AMD, although it was not statistically significant.[9]

Systemic vascular issues, such as hypertension, arteriosclerosis, and metabolic syndrome, are known to be major risk factors for the progression of macular degeneration.[11] These conditions can worsen the pathological mechanisms by causing a lack of blood flow to the macula and inducing microvascular lesions. To improve the symptom, saponins (Notoginsenoside) contained in *Panax notoginseng* root extract have been reported in animal studies to activate the VEGF-KDR/Flk-1 and PI3K-Akt-eNOS signaling pathways, inducing vascular regeneration and restoring damaged microvascular circulation.[12]

This case study is based on a single case; therefore, the results should not be generalized. Further multicenter clinical trials or large-scale cohort studies are needed to verify the

effectiveness of OCNT systematically. Nevertheless, after approximately six months of OCNT application, there was a significant improvement in dry macular degeneration and a positive impact on the patient's recovery of daily activities. These findings suggest that OCNT may contribute to symptom relief and improve the quality of life for macular degeneration patients. This case study is presented with the patient's consent.

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