

## 세포교정영양요법(OCNT)을 이용한 고지혈증 환자 사례 연구

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## A Case Study on Improving Hyperlipidemia Using Ortho-Cellular Nutrition Therapy (OCNT)

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## ABSTRACT

**Objective:** Report of a case study on the improvement of hyperlipidemia through Ortho-Cellular Nutrition Therapy (OCNT).

**Methods:** OCNT was administered over approximately five months to a 52-year-old Korean male diagnosed with hyperlipidemia and hypertension. Changes in blood lipid concentrations were monitored through blood tests.

**Results:** After the implementation of OCNT, there were decreases in triglycerides, total cholesterol, and LDL cholesterol levels.

**Conclusion:** OCNT may assist in managing cholesterol levels in patients with hyperlipidemia.

**Keywords:** Ortho-Cellular Nutrition Therapy (OCNT), hyperlipidemia, triglycerides, blood cholesterol

## Introduction

Hyperlipidemia refers to an excessive increase in the concentrations of major blood lipids such as cholesterol, triglycerides, phospholipids, and fatty acids, particularly marked by the excessive accumulation of cholesterol and triglycerides. Common causes of hyperlipidemia include smoking, hypertension, diabetes, excessive alcohol consumption, poor dietary habits, lack of exercise, obesity, and stress. While cholesterol is essential for biological functions, its oxidized form can cause cellular damage and trigger atherosclerosis and genetic mutations.<sup>1</sup> Vascular and heart diseases, secondary to reduced blood flow from atherosclerosis, are reported as one of the leading causes of death following cancer.<sup>2</sup> Hence, early improvement of hyperlipidemia is crucial for preventing or managing these diseases.

The rise in living standards and the spread of Western dietary habits have led to a continuous increase in the incidence of cardiovascular and cerebrovascular diseases in the country. Over the past 20 years, the prevalence of chronic conditions such as hypertension, diabetes, hyperlipidemia, and obesity has steadily increased among adults over 30 in Korea.<sup>3</sup> Particularly in middle age, antioxidant and detoxification capabilities decrease, raising

the risk of chronic diseases, and changes due to aging become more pronounced during this period. Therefore, proper management of these risk factors is deemed crucial.

The diagnosis of hyperlipidemia varies by testing facility but is typically defined as having a fasting total cholesterol level over 200 mg/dL or triglycerides over 150 mg/dL. LDL cholesterol, which can deposit excessive cholesterol in blood vessel walls, necessitates treatment if levels exceed 130 mg/dL in patients with heart disease or equivalent risks.

Modern medicine considers hyperlipidemia part of metabolic syndrome, noting that oxidized cholesterol promotes atherosclerosis. To manage this, cholesterol synthesis-inhibiting drugs, namely statins, are the standard treatment. However, long-term use of statins can cause side effects like muscle pain, memory loss, increased glycated hemoglobin, and chronic fatigue,<sup>4-6</sup> prompting the need for new, safe, and effective treatments for hyperlipidemia without these side effects.

This case study's patient had previously been diagnosed with hypertension and hyperlipidemia and had experienced frequent inflammatory periodontal disease, chronic fatigue, circulatory disorders, and intermittent chest pain. Additionally, in 2022, his triglyceride levels were notably high at 244 mg/dL. This case applied Ortho-Cellular Nutrition Therapy (OCNT) to manage blood lipid levels and monitor the progress accordingly.

## Case Study

## 1. Subject

A single case of a hyperlipidemia patient was studied.

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- 1) Name: Kim O O (52/M)
- 2) Diagnoses: Hypertension, Hyperlipidemia
- 3) Date of onset: 2014
- 4) Treatment duration: February 2024 to present
- 5) Primary symptoms: Frequent inflammation (periodontal disease), chronic fatigue, circulatory disorders, intermittent chest pain on the left side.
- 6) Medical History: Hypertension, hyperlipidemia, liver function decline
- 7) Social History: Non-smoker, alcohol consumption (2-6 times per week)
- 8) Family History: Diabetes
- 9) Medications and Treatments Applied: Telminuvo Tablet (80/5 mg, once daily, one tablet per dose), Livalo Tablet (2 mg, once daily, one tablet per dose), DD-Cell Tablet (three times daily, one tablet per dose), Ursa Tablet (200 mg, three times daily, one tablet per dose)

## 2. Methods

OCNT was administered as follows:

Cyaplex F Capsule (303, twice daily, 3 capsules per dose)

Eufaplex Alpha Capsule (303, twice daily, 3 capsules per dose)

Monacol (200, once daily, 2 capsules per dose)

The patient discontinued the previously administered Livalo Tablet, and continued using Telminuvo, DD-Cell, and Ursa.

## Results

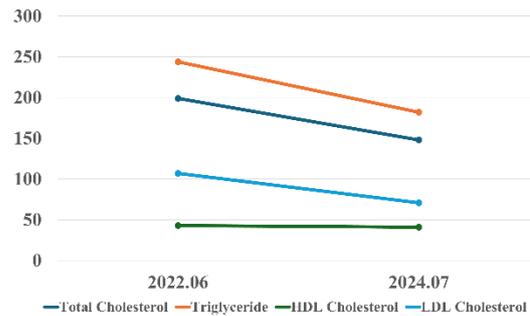
The subject of this case study, a 52-year-old male, had been previously diagnosed with hypertension and hyperlipidemia and was undergoing medical treatment. Due to frequent inflammation and intermittent chest pain on the left, myocardial infarction was suspected, and he underwent clinical examination and testing at a hospital. However, abnormal findings were not identified. As he entered middle age, his antioxidative detoxification abilities decreased, raising the likelihood of coronary arteriosclerosis due to oxidized cholesterol and vascular inflammatory substances. Consequently, OCNT was initiated with the aim of preventing cerebrovascular and cardiac diseases.

The evaluation of the patient's treatment effect with OCNT was based on a blood lipid profile test conducted in June 2022, as no additional blood tests were performed before February 2024, making this the most recent comparative data available.

After approximately six months of OCNT, a comparative review of the blood test results from July 2024 showed significant improvements in the patient's blood lipid levels. Total cholesterol levels decreased from 199 mg/dL to 148 mg/dL, triglycerides from 244 mg/dL to 182 mg/dL, and LDL cholesterol levels also showed a decreasing trend from 107 mg/dL to 71 mg/dL (Fig. 1).

Following the start of OCNT, the patient experienced alleviation of his anxiety about cerebrovascular disease and, despite discontinuing statin use, saw improvements in cholesterol levels, which greatly satisfied him. Additionally, symptoms such as inflammatory periodontal disease, chronic fatigue, circulatory disorders, and intermittent chest pain on the left side disappeared, eliminating discomfort in his daily life.

## Discussion



**Fig 1. Changes in the patient's blood lipid levels after OCNT.**

Total Cholesterol (Before: 199 mg/dL, After: 148 mg/dL) / Triglycerides (Before: 244 mg/dL, After: 182 mg/dL) / HDL Cholesterol (Before: 43 mg/dL, After: 41 mg/dL) / LDL Cholesterol (Before: 107 mg/dL, After: 71 mg/dL)

Hyperlipidemia is defined by abnormally high lipid concentrations in the blood, with increases in LDL cholesterol and triglycerides known as primary contributors to atherosclerosis. Atherosclerosis involves the accumulation of cholesterol in the vascular walls, leading to narrowing or hardening of the arteries, which severely impacts blood flow to the heart and brain. Cardiovascular diseases, including strokes and myocardial infarctions, are among the leading causes of death worldwide, and atherosclerosis due to hyperlipidemia plays a significant role in these conditions. These diseases not only significantly diminish the quality of life for patients but also exhibit high mortality rates, making prevention and early treatment crucial.

The formation of cholesterol plaques within the vascular inner walls can narrow the vessels, impeding sufficient blood supply to the heart and potentially leading to myocardial infarction, while blocked brain vessels significantly increase the risk of strokes. As the patient in this case entered middle age, the accumulation of oxidized cholesterol and vascular inflammatory substances could accelerate coronary artery sclerosis, ultimately posing a health threat.

Excessive cholesterol accumulation can contribute to the onset of various diseases, including metabolic liver diseases and neurodegenerative disorders, through mechanisms involving reduced antioxidative capacity, increased reactive oxygen species, and subsequent cellular processes.<sup>7</sup> This is due to cholesterol accumulation within mitochondria, which triggers oxidative stress and initiates cell apoptosis. Therefore, the intake of anthocyanins can help reduce such oxidative stress. Anthocyanins have been reported to inhibit lipid peroxidation as well as cell death induced by mitochondrial oxidative stress.<sup>8</sup>

Cardiovascular diseases, characterized by high death rates globally, are notably influenced by risk factors such as high levels of total cholesterol, triglycerides, and low-density lipoprotein (LDL), with lower levels of high-density lipoprotein (HDL) increasing these risks. Linolenic acid, utilized in synthesizing unsaturated fatty acids like eicosapentaenoic acid and docosahexaenoic acid, has been reported to improve thrombosis, triglyceride levels, and inflammation.<sup>9</sup> Linolenic acid modulates transcription factors like NF- $\kappa$ B through signaling pathways involving toll-like receptors (TRL) and src-family kinases (Fyn, c-Yes). Through these mechanisms, it can induce an anti-inflammatory response, thus potentially helping patients with frequent inflammatory periodontal disease improve their symptoms.<sup>10</sup>

The frequency of alcohol consumption in individuals with hypertension and diabetes shows a significant correlation with increased triglycerides and total cholesterol.<sup>11</sup> For patients who consume alcohol two to six times a week, the intake of red yeast rice extract can aid in controlling cholesterol levels. Monacolin K, a component of red yeast rice extract structurally identical to lovastatin, has been reported to assist in reducing blood cholesterol levels by inhibiting HMG-CoA reductase, the key enzyme responsible for cholesterol synthesis in the liver. Inhibition of this enzyme can help decrease serum LDL cholesterol, which is effective in treating hyperlipidemia.<sup>12,13</sup> Furthermore, monacolin K has been shown to have similar effects to statins but with almost no side effects and is reported to have superior effects compared to simvastatin, another dyslipidemia drug.<sup>14</sup>

Despite the ongoing treatment from February 2024 to the present, the lack of additional blood lipid tests during this period poses limitations in closely comparing the progress of treatment. However, consistent OCNT has been applied to maintain proper blood lipid levels, and the patient's condition continues to be monitored. Notably, the absence of chest pain has alleviated the patient's anxiety about severe diseases. This case suggests that OCNT can positively impact cholesterol management and prevention of cerebrovascular diseases in patients with hyperlipidemia, reported with the patient's consent.

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