

세포교정영양요법(OCNT)을 이용한 고지혈증 환자 개선 사례

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Effects of Ortho-Cellular Nutrition Therapy (OCNT) on Clinical Outcomes in Patients with Hyperlipidemia

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ABSTRACT

Objective: Hyperlipidemia is a condition characterized by elevated levels of cholesterol or triglycerides in the blood beyond the normal range, leading to the narrowing of vascular walls. If left untreated, impaired blood circulation may result in fatal complications such as myocardial infarction or stroke. Statins, which inhibit cholesterol synthesis, are the most commonly prescribed pharmacological agents for treatment. The primary goal of therapy is to maintain appropriate lipid levels within the blood vessels through consistent medication use and management.

Case Report: The patient in this case was a Korean woman in her 60s who was diagnosed with diabetes five years prior and hyperlipidemia three years prior through routine hospital examinations. Her total cholesterol levels had remained above the normal range until recently. Ortho-Cellular Nutrition Therapy (OCNT) using essential fatty acids—alpha-linolenic acid, gamma-linolenic acid, and linoleic acid—was applied. As a result, a slight reduction in total cholesterol levels was observed after remaining stable for four years.

Conclusion: As this case involves the application of OCNT to a single patient, there are limitations in generalizing the same treatment protocol to other patients with hyperlipidemia. However, appropriate OCNT may help improve hyperlipidemia by regulating cholesterol levels in the body. In addition, improvements in renal function markers were observed, suggesting potential applicability for patients experiencing renal discomfort.

Keywords Ortho-Cellular Nutrition Therapy (OCNT), hyperlipidemia, cholesterol, statins, essential fatty acids

Introduction

Hyperlipidemia refers to an imbalance in blood cholesterol levels, including low-density lipoprotein cholesterol (LDL-C) and high-density lipoprotein cholesterol (HDL-C). LDL-C and HDL-C play essential roles in regulating total cholesterol levels in the body, and an imbalance between them may increase the risk of cardiovascular events, including myocardial infarction and stroke. Other forms of hyperlipidemia include hypertriglyceridemia and mixed hyperlipidemia, in which both cholesterol and triglyceride levels are elevated. Elevated LDL-C levels may lead to the accumulation of atherosclerotic plaque within the arterial walls, thereby increasing the risk of

atherosclerotic cardiovascular disease (ASCVD), including coronary artery disease and stroke. In contrast, HDL-C facilitates the removal of cholesterol from the bloodstream; therefore, increasing HDL-C levels (≥ 60 mg/dL) may help reduce the risk of ASCVD.¹

Elevated LDL levels (hypercholesterolemia) represent one of the most common conditions contributing to the development of atherosclerosis and subsequent vascular disease. Hypercholesterolemia is defined as an increased concentration of lipids or fats in the bloodstream. The pathogenesis of atherosclerosis involves multiple factors, including endothelial injury, hyperlipidemia, inflammatory and immunologic mechanisms, plaque erosion or rupture, hypertension, and smoking. In most patients, hyperlipidemia is polygenic in origin, and its clinical manifestation is strongly influenced by factors such as (severe) obesity, dietary intake of saturated fats, and cholesterol content in the diet. Another proposed mechanism suggests that elevated plasma lipoprotein levels alone may lead to atherosclerotic disease, even in the absence of other risk factors. Ultimately, the combined effects of

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genetic predisposition and environmental influences increase the overall risk of developing hyperlipidemia.^{2,3}

More than three million adults across the United States and Europe have been diagnosed with hyperlipidemia, and in Korea, approximately two out of five adults are affected, with the prevalence increasing rapidly. Hyperlipidemia is generally a chronic and progressive condition that requires lifestyle and dietary modifications and may necessitate additional lipid-lowering pharmacotherapy. The severity of hyperlipidemia is highest among patients with premature coronary artery disease (CAD), which occurs most commonly in women before the age of 55–60 years. The prevalence of hyperlipidemia in this population is approximately 75–85%, which is considerably higher than the 40–48% observed in age-matched control groups without premature CAD.^{4–6}

In this case, Ortho-Cellular Nutrition Therapy (OCNT) was applied to a patient who had been diagnosed with hyperlipidemia through blood testing and had been advised to initiate pharmacological treatment. As a result, relatively short-term changes were observed in total cholesterol, triglyceride (TG), and estimated glomerular filtration rate (eGFR) levels. With the patient's consent, this case is therefore reported.

Case Study

1. Subject

This case involved a single patient diagnosed with hyperlipidemia.

- 1) Name: O ○ ○ (64 years/F)
- 2) Diagnosis: Hyperlipidemia
- 3) Onset date: May 30, 2022
- 4) Treatment period: October 2025 – present
- 5) Chief complaint: Hyperlipidemia
- 6) Past history: Diagnosed with diabetes in 2020
- 7) Social history: None
- 8) Family history: Diabetes
- 9) Present illness and current medications:
 - Hyperlipidemia: Caduet 5/10 mg
 - Diabetes: Diabex 500 mg, Trajenta 5 mg

2. Methods

- October 2025 – November 2025
 - Eufaplex alpha semi (101, twice daily, 1 capsule per dose)
 - No changes in existing medications
 - No concurrent exercise or dietary modifications
- November 2025 – present
 - Eufaplex alpha capsule (300, once daily, 3 capsule per dose)
 - No changes in existing medications
 - No concurrent exercise or dietary modifications

Results

The patient in this case, a 64-year-old woman, had previously been diagnosed with diabetes and hyperlipidemia and was receiving pharmacological treatment for both conditions. As she approached older age, concerns regarding her overall health increased. In particular, her chronic conditions—diabetes and hyperlipidemia—are recognized as contributing factors that elevate the risk of coronary atherosclerosis. Accordingly, Ortho-Cellular Nutrition Therapy

(OCNT) was initiated with the aim of regulating blood lipid levels and preventing cardiovascular disease.

The evaluation of OCNT was conducted based on blood lipid profile tests performed in October 2025 and at the current follow-up. The patient's pre-existing medications were maintained without modification, and supplementation was limited to essential fatty acids—alpha-linolenic acid, gamma-linolenic acid, and linoleic acid. No additional dietary modifications or exercise interventions were implemented during this period.

Approximately three months after the initiation of OCNT, improvements were observed in lipid parameters associated with hyperlipidemia, including total cholesterol, LDL cholesterol, triglyceride (TG), and eGFR levels. In addition, as blood lipid levels improved, renal function-related parameters—such as eGFR, blood urea nitrogen (BUN), and creatinine—also showed favorable changes, suggesting that OCNT may provide beneficial effects for patients with renal-related conditions. Changes in hyperlipidemia-related lipid parameters during OCNT are presented in detail in Fig. 1.

Discussion

Hyperlipidemia refers to a condition that increases the risk of coronary heart disease (CHD) and arteriosclerotic heart disease (ASHD) within the vasculature. Factors such as smoking, obesity, and a sedentary lifestyle contribute to the development of hyperlipidemia and serve as major aggravating factors for coronary artery disease. Hyperlipidemia is defined as an abnormal elevation of lipid levels in the bloodstream. These lipids are transported via lipoproteins and play essential roles in energy utilization, hormone synthesis, and tissue delivery. Lipoproteins are composed of cholesterol, triglycerides, phospholipids, and proteins. Most patients with hyperlipidemia are often asymptomatic in the early stages of the disease.⁷

CHD is a condition associated with high incidence and mortality rates among older adults. According to epidemiological data, approximately 25% of men and 42% of women aged 65 years or older exhibit abnormal cholesterol levels. In women, cholesterol levels tend to increase after menopause due to decreased estrogen levels and changes in body weight. In early adulthood, women in their early 20s may present with slightly higher cholesterol levels than men; however, levels increase steadily between the ages of 25 and 50, reaching values comparable to those of men by around 60 years of age. As individuals transition from middle age to older adulthood, the accumulation of oxidized cholesterol and lipoprotein particles may accelerate the progression of CHD and ASHD, ultimately posing a significant threat to overall health.^{3–6}

Eufaplex contains essential fatty acids—alpha-linolenic acid (ALA), gamma-linolenic acid (GLA), and linoleic acid (LA)—as its primary components. Essential fatty acids cannot be synthesized endogenously and must therefore be obtained through dietary intake. These fatty acids serve as precursors that are metabolized into biologically active omega fatty acids within the body.⁸ Although some researchers have argued that supplementation with these components alone may be

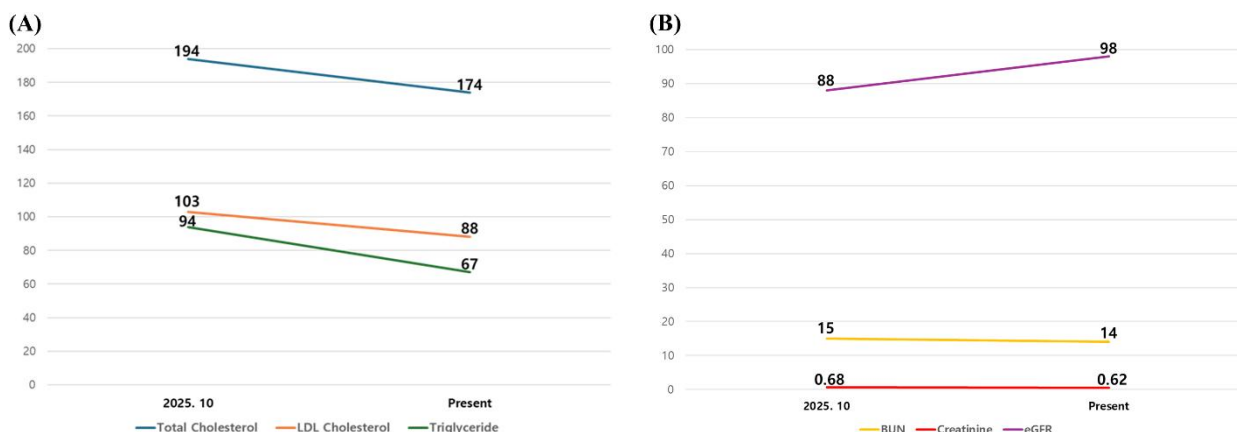


Fig. 1. Changes in hyperlipidemia-related blood lipid parameters (A) and renal function-related parameters (B) after OCNT. Total cholesterol (pre: 194 mg/dL, post: 174 mg/dL), LDL cholesterol (pre: 103 mg/dL, post: 88 mg/dL), triglyceride (Tg) (pre: 94 mg/dL, post: 67 mg/dL), estimated glomerular filtration rate (eGFR) (pre: 88, post: 98), blood urea nitrogen (BUN) (pre: 15 mg/dL, post: 14 mg/dL), and creatinine (pre: 0.68 mg/dL, post: 0.62 mg/dL). Except for eGFR, which increased, all other parameters decreased following OCNT.

insufficient to meet the requirements for polyunsaturated fatty acids, current evidence suggests that, when consumed in appropriate amounts, they are metabolized and converted within the body. As such, their intake is recommended as a sustainable source of nutritional support.⁹

Essential fatty acids provide a range of physiological benefits depending on their specific type. Among these, alpha-linolenic acid (ALA) is most closely associated with lipid regulation. ALA has been reported to suppress the expression of lipid-related genes, including sterol regulatory element-binding protein 2 (SREBP2), SREBP-1a, and SREBP-1. Through this mechanism, ALA inhibits the biosynthetic pathways of cholesterol and fatty acids, ultimately contributing to the reduction of triglyceride levels.¹⁰

Linoleic acid (LA) is abundantly present in oils extracted from seeds such as sunflower, canola, and corn. Several clinical trials have reported that adequate intake of linoleic acid is associated with favorable regulation of LDL cholesterol levels. In addition, some studies have demonstrated beneficial effects on glucose tolerance, suggesting a potential influence on insulin signaling and glucose metabolism pathways.¹¹

Gamma-linolenic acid (GLA) is known to play a significant role in modulating inflammatory responses. In the body, GLA can promote the production of prostaglandin E1 (PGE1), an anti-inflammatory mediator, thereby contributing to the attenuation of inflammatory processes. In one animal study, reduced expression of inflammation-related proteins was observed in the group supplemented with gamma-linolenic acid. Furthermore, experimental animal models have demonstrated a lower extent of atherosclerotic lesions in GLA-supplemented groups, suggesting that this fatty acid may exert beneficial effects on vascular health.^{12,13}

Eufaplex contains non-oxidized essential unsaturated fatty acids, referred to as NOEUFA (Non-Oxidized Essential Unsaturated Fatty Acids), which are free from oxidative degradation and structural alteration. NOEUFA is reported to promote the regeneration of healthy cell membranes and to stimulate the production of prostaglandin E, a bioactive hormone-like substance. Through these mechanisms, it may contribute to the improvement of chronic conditions associated with abnormal blood pressure, glucose, and cholesterol levels. In addition, its anti-inflammatory properties may exert

beneficial effects on cardio-cerebrovascular diseases, including atherosclerosis and myocardial infarction. Furthermore, it has been suggested to support cognitive function, potentially enhancing memory and learning capacity.

The patient maintained stable total cholesterol levels for five years while continuing previously prescribed medications without concurrent exercise or dietary modifications. Eufaplex supplementation was initiated in October 2025, and a reduction in total cholesterol levels was observed over an approximately three-month period. In addition, as hyperlipidemia-related parameters improved, renal function markers also demonstrated favorable changes, suggesting potential positive effects for patients experiencing renal discomfort. However, as this case involves a single patient, there are limitations in generalizing these findings to all patients with hyperlipidemia. Nevertheless, the clinically meaningful improvement observed through a relatively simple OCNT intervention is considered noteworthy, and this case is reported with the patient's consent.

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