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Case Report

세포교정영양요법(OCNT)을 적용한 지질 개선 및 당화혈색소 개선 사례

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A Case of Improved Lipid Profile and Glycated Hemoglobin Levels Following Ortho-Cellular Nutrition Therapy (OCNT)

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ABSTRACT

Objective: Dyslipidemia and type 2 diabetes mellitus frequently coexist, and both conditions may increase the risk of cardiovascular disease and contribute to an increased metabolic burden. Accordingly, clinical management generally aims to control lipid and blood glucose levels using lipid-lowering agents, particularly statins, together with oral antihyperglycemic agents and insulin. However, treatment targets are frequently not achieved, and adverse effects may hinder the continuation of therapy.

Case Report: This case involved a Korean man in his 50s who had been taking rosuvastatin following a diagnosis of hyperlipidemia but reported adverse effects, including muscular discomfort, fatigue, and elevated glycemic parameters. An Ortho-Cellular Nutrition Therapy (OCNT) regimen comprising anthocyanins, omega-3 fatty acids, milk thistle, red yeast rice, vitamin D, and other nutrients was administered. Following OCNT, the patient's serum cholesterol, triglyceride, and glycemic parameters were found to have returned to their respective reference ranges.

Conclusion: Because this case involved a single patient, the findings cannot be readily generalized, and the same regimen may not be applicable to all patients with similar metabolic conditions. Nevertheless, the case is considered clinically noteworthy because a reduction in adverse effects associated with conventional antihyperglycemic and lipid-lowering therapies was observed, together with marked improvements in metabolic parameters.

Keywords Ortho-Cellular Nutrition Therapy (OCNT), Dyslipidemia, Glycated hemoglobin (HbA1c), Statins, Metabolic parameters

Introduction

Dyslipidemia and type 2 diabetes mellitus frequently coexist, and both conditions are recognized as independent risk factors for cardiovascular disease, with their interaction further compounding metabolic burden. [1,2] Accordingly, the combined use of lipid-lowering agents, primarily statins, with oral antihyperglycemic agents or insulin to achieve concurrent control of lipid and glycemic parameters has become established as a standard therapeutic strategy in clinical practice. [3]

However, in clinical practice, some patients fail to achieve established treatment targets despite standard pharmacotherapy, exhibit improvement in either lipid or glycemic parameters while the other deteriorates, or are unable to maintain adequate therapeutic doses because of adverse effects such as myalgia, fatigue, and gastrointestinal disturbances.3 In patients with coexisting dyslipidemia and diabetes mellitus, simultaneous attainment of both lipid and glycemic targets may therefore be challenging.

Ortho-Cellular Nutrition Therapy (OCNT) is an approach intended to support cellular metabolic function through the individualized combination of various bioactive nutrients according to a patient's metabolic status. In recent years, this approach has been explored in selected clinical settings in Korea for patients with metabolic disorders who have shown an

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inadequate response to conventional pharmacotherapy. The author observed concurrent improvements in the lipid profile and glycated hemoglobin (HbA1c) following OCNT in a patient with diabetes mellitus and dyslipidemia whose lipid and glycemic parameters had remained inadequately controlled despite conventional treatment with a statin and antihyperglycemic agents. Accordingly, this case is reported herein.

Case Study

1. Subject

This report describes a single patient with hyperlipidemia and prediabetes.

1) Name: OOO (57 years old / Male)
2) Diagnosis: Hyperlipidemia (dyslipidemia) and prediabetes
3) Onset: 2020
4) Treatment period: February 2026 to May 2026, approximately 13 weeks
5) Chief complaints: Insufficient improvement in lipid levels despite statin therapy, myalgia, persistent fatigue, elevated glycated hemoglobin and fasting blood glucose levels, abdominal obesity, pallor, and eye fatigue
6) Past medical history: Hyperlipidemia
7) Social history: Alcohol consumption once weekly; no history of smoking
8) Family history: None
9) Present illness and current medication: The patient had been continuously taking rosuvastatin 10 mg since being diagnosed with hyperlipidemia in 2020.

2. Methods

The following OCNT regimen was prescribed:

- Cyaplex X Granules 101 (one sachet per dose, twice daily)
- Eufaplex Alpha Capsules 303 (three capsules per dose, twice daily)
- Hepatop Capsules 101 (one capsule per dose, twice daily)
- Monacol Capsules 020 (two capsules per dose, twice daily)
- Diverol Capsules 010 (one capsule once daily)

During the OCNT period, the patient did not take any previously prescribed lipid-lowering medications, including rosuvastatin.

Results

The specific changes in major metabolic parameters between December 2025, immediately before OCNT initiation, and June 2026 are presented in Table 1. Among the lipid parameters, total cholesterol, LDL-C, and triglyceride levels decreased by 67 mg/dL, 74.1 mg/dL, and 39 mg/dL, respectively, whereas HDL-C increased by 15.1 mg/dL. Glycemic parameters also showed marked reductions, with HbA1c decreasing by 1.0 percentage point and fasting glucose decreasing by 24 mg/dL. Notably, LDL-C decreased substantially despite the absence of statin therapy. Furthermore, HbA1c and fasting glucose, both of which had shown a persistent upward trend during statin treatment, improved to levels near their respective reference ranges. The temporal changes in these metabolic parameters after the initiation of OCNT are presented in Fig. 1.

Discussion

The patient in this case was a Korean man in his 50s who had been receiving rosuvastatin at a dose of 10 mg since being diagnosed with hyperlipidemia in 2020. Although rosuvastatin is a potent lipid-lowering statin, its use has been associated with adverse effects including myalgia, muscle weakness, elevated hepatic enzyme levels, and an increased risk of diabetes mellitus. In particular, patients with prediabetes may have a modestly increased risk of progression to diabetes mellitus.[4,5]

The patient in this case also reported persistent myalgia and unremitting fatigue during rosuvastatin treatment, and follow-up laboratory tests demonstrated progressive increases in HbA1c and fasting glucose levels. Abdominal obesity, facial pallor, and ocular fatigue were also noted, indicating an urgent need for an alternative therapeutic approach to rosuvastatin. Accordingly, rosuvastatin was discontinued in February 2026, and OCNT was initiated and continued for approximately 13 weeks.

Anthocyanins contained in Cyaplex X are known to contribute to the enhancement of systemic antioxidant defenses. Their intake has been reported to significantly reduce HbA1c, fasting glucose, 2-hour postprandial glucose, triglyceride levels, and LDL-C levels.[6–8] Alpha-linolenic acid contained in Eufaplex is metabolically converted to docosahexaenoic acid (DHA) and eicosapentaenoic acid (EPA), which may help reduce triglyceride and LDL-C levels.[9] In patients with diabetes mellitus, the intake of plant-derived polyunsaturated fatty acids (PUFAs), particularly linoleic acid, has been associated with reductions in total cholesterol and LDL-C levels.[10]

Table 1. Changes in major metabolic parameters over time following OCNT.

항목	2023.11	2024.08	2025.12	2026.06	Overall change
Total cholesterol (mg/dL)	225	214	247	180	▼45
Triglycerides (mg/dL)	107	66	99	60	▼47
HDL-C (mg/dL)	40	39	47	62.1	▲22.1
LDL-C (mg/dL)	163	162	180	105.9	▼57.1
HbA1c (%)	6.0	5.8	6.4	5.4	▼0.6%p
Fasting blood glucose (mg/dL)	113	112	127	103	▼10

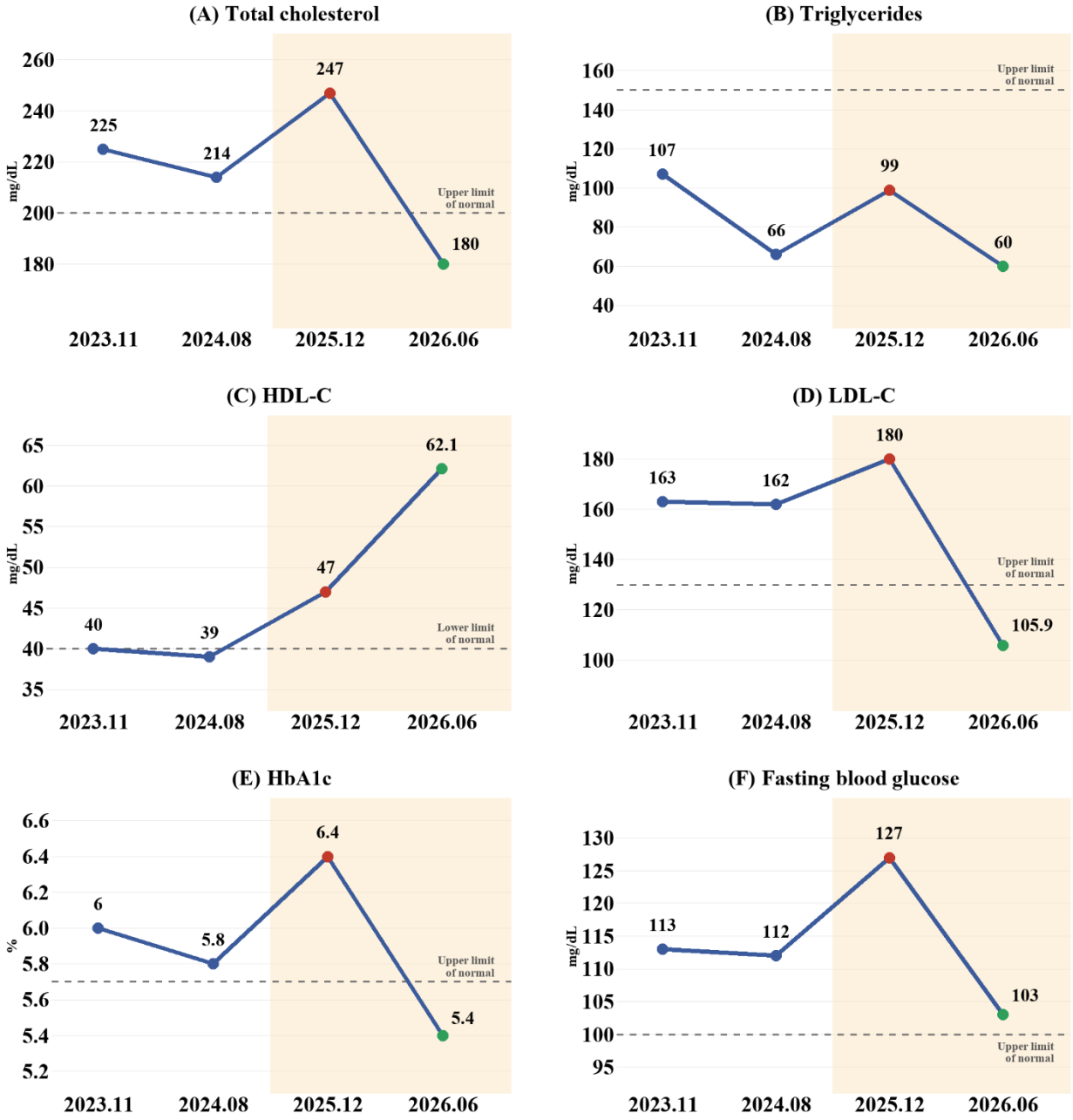

Fig. 1. Long-term changes in major lipid and glycemic parameters from 2023 to 2026. (A) Total cholesterol (mg/dL), (B) triglycerides (mg/dL), (C) HDL-C (mg/dL), (D) LDL-C (mg/dL), (E) HbA1c (%), and (F) fasting blood glucose (mg/dL).

Milk thistle, one of the principal ingredients of Hepatop, is rich in silymarin, a bioactive flavonolignan complex that may support hepatic function. In hypertriglyceridemic rats, four weeks of silymarin administration reduced serum triglyceride and cholesterol levels and increased HDL-C levels. Similar effects have also been reported in clinical studies.[11] Monacolin K, a bioactive constituent of Monacol derived from red yeast rice, may reduce triglyceride and total cholesterol levels, significantly lower LDL-C levels, and increase HDL-C levels. It may also exert complementary lipid-modulating effects through mechanisms that overlap with those of omega-3 fatty acids. When combined with silymarin, monacolin K may reduce LDL-C, triglyceride, and total cholesterol levels, while being associated with a slight reduction in HDL-C. In addition, the complementary hepatoprotective and antioxidant activities of these compounds may produce anti-inflammatory and vasoprotective effects.[12]

Finally, although vitamin D in Diverol does not directly target dyslipidemia, insulin resistance and inflammation in patients with diabetes mellitus or other metabolic disorders may contribute to the development of dyslipidemia. Vitamin D may therefore indirectly contribute to improvements in lipid levels by enhancing insulin sensitivity.[13]

Because this report describes a single patient, the findings cannot be readily generalized to other patients, and the same OCNT regimen may not be universally applicable. Nevertheless, the case is considered clinically noteworthy because OCNT was implemented as an alternative to rosuvastatin, which had

adversely affected the patient's quality of life, and marked improvements in major metabolic parameters were subsequently observed. This case is therefore reported with the patient's consent.

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