CellMed
Cellmed Orthocellular Medicine and Pharmaceutical Association

Case Report-A learning from clinical experiential history

세포교정영양요법(OCNT)을 이용한 허혈성 심비대증 사례 연구

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A Case Study of Ischemic Cardiomyopathy Treated with Ortho-Cellular Nutrition Therapy (OCNT)

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ABSTRACT

Objective: Case report of a patient with ischemic cardiomyopathy treated with Ortho-Cellular Nutrition Therapy (OCNT).

Methods: A 70-years-old Korean male who was diagnosed with ischemic cardiomyopathy and experienced persistent symptoms despite taking statins.

Results: After implementing a nutritional therapy, there have been improvements in blood cholesterol and red blood cell levels.

Conclusion: Ortho-Cellular Nutrition Therapy (OCNT) may contribute to the restoration of cardiovascular and renal function and improvement in cholesterol levels in patients with ischemic cardiomyopathy.

Keywords Ortho-Cellular Nutrition Therapy (OCNT), ischemic cardiomyopathy, creatinine, red blood cells, cholesterol.

Introduction

Ischemic heart disease refers to a condition where the heart muscle does not receive an adequate supply of oxygen and nutrients due to reduced blood flow caused by the narrowing or blockage of coronary arteries, typically due to atherosclerosis. Although the mortality rate from cardiovascular diseases has been decreasing, it remains one of the leading causes of death.[1] When classifying heart diseases, it is important to consider the presence of dilated, hypertrophic, or restrictive cardiomyopathy. In the case of hypertrophic cardiomyopathy or when it is the underlying cause, patients may experience symptoms such as fainting, chest pain, shortness of breath, and palpitations (awareness of irregular heartbeat).[2]

To decrease the force of contraction in the heart, medications are commonly prescribed. The preferred management for ischemic heart disease typically

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Received Jun 27, 2023; **Accepted** Jun 29, 2023; **Published** Jun 30, 2023
doi: http://dx.doi.org/10.5667/CellMed.spc.030

† This report has been translated and edited by the CellMed editor-in-chief, Prof. Beom-Jin Lee.

involves pharmacotherapy and may include antianginal medications, lipid-lowering agents, anticoagulants, and renin-angiotensin-aldosterone system blockers, along with the addition of coronary angiography followed by percutaneous coronary intervention or coronary artery bypass grafting.[3] In the case of hypertrophic cardiomyopathy, medications such as beta-blockers and calcium channel blockers are used.[2,3] Additionally, statins may be used to reduce the incidence of atrial fibrillation. In fact, statins are prescribed to patients with comorbidities such as hyperlipidemia and cardiovascular disease due to their effects on cholesterol reduction, endothelial function improvement, antioxidative and anti-inflammatory properties, promotion of neovascularization, and immune modulation.

However, it is known that high-dose statin therapy can exacerbate hypertrophy and worsen heart failure in patients with advanced heart failure by inhibiting the production of certain protective factors such as coenzyme Q10 (CoQ10) while also interfering with specific proteins involved in pathological mechanisms, which has been demonstrated to be dependent on factors such as LDL-C.[4] Therefore, considering the absence of side effects associated with statins and the need for new approaches in the treatment of ischemic heart disease and non-alcoholic patients, it is believed that a new method is necessary.

The patient in this case has been receiving medication, including statins, for the treatment of ischemic heart disease for a long time. The patient presented with frequent nocturia, poor fasting blood glucose levels, and elevated markers related to heart failure, indicating a complex condition. In order to improve the patient's condition, the patient underwent OCNT counseling and initiated treatment. This report aims to present the progress and outcomes of the treatment.

Case Report

1. Subject

A case study was conducted on a patient with ischemic cardiomyopathy.

1) Name: Kim O O (M/68 years old)

2) Diagnosis: Ischemic cardiomyopathy

3) Onset date: Exact date unknown

4) Treatment period: December 2020 to July 2022 (approximately 19 months)

5) Presenting symptoms: Nocturia, renal failure, dry eyes

6) Past medical history: None

7) Social history: None

8) Family history: Hypertension, diabetes

9) Current medical history: None

2. Method

First-phase Ortho-Cellular Nutrition Therapy (OCNT)

Cyaplex A (111, three times a day, 1 sachet per dose)

Eufaplex (111, three times a day, 1 capsule per dose)

Diverol (111, three times a day, 1 tablet per dose)

Cyaplex Mineral Bamboo Salt (111, three times a day, 1 sachet per dose)

Aqua SAC Pure (111, three times a day, 1 sachet per dose)

Hemoplex (111, three times a day, 1 tablet per dose)

Vivakan (111, three times a day, 1 tablet per dose)

Sulfoplex F (111, three times a day, 1 sachet per dose)

This regimen was followed for one year.

Second Nutritional Therapy

Similar to the first one, with the exclusion of Sulfoplex F and the addition of Bioplex F (111, three times a day, 1 tablet per dose) and Collaplex (111, three times a day, 1 tablet per dose)

This regimen was followed for one year.

Result

Following the implementation of nutritional therapy, a comparison with the pre-treatment measurements revealed improvements in various health-related indicators (Table 1). Elevated bilirubin levels indicate the possibility of jaundice, while elevated creatinine levels suggest impaired renal function due to proportional reduction in glomerular filtration. High cholesterol and triglyceride levels are associated with hyperlipidemia, and blood-related parameters (MCV, MCHC, HCT) indicate that the patient is experiencing symptoms of cardiac disease. Additionally, the levels of triglycerides and LDL cholesterol, which are closely related to blood vessels, were also measured (Table 2). Based on these findings, it can be observed that the values returned to within the normal range after OCNT supplementation

Table 1. Changes in laboratory test results before and after OCNT supplementation.

	Before	After	Reference Range
Bilirubin (mg/dl)	1.54	1.0	0.1~1.2
Cholesterol (mg/dl)	202	175	<200
Triglycerides (mg/dl)	131	103	<149
MCV* (μm³)	101.9	94.9	80 ~ 100
MCHC** (%/Cell)	31.6	34.2	32 ~ 36
HCT*** (fL)	49.1	44.8	40 ~ 45
BUN****(mg/dl)	23.9	21	<23
Creatinine (mg/dl)	1.12	0.92	0.5 ~ 1.2

*MCV (Mean Corpuscular Volume), **MCHC (Mean Corpuscular Hemoglobin Concentration), ***HCT (Hematocrit), ****BUN (Blood Urea Nitrogen)

Table 2. Changes in triglyceride and LDL cholesterol levels over the supplementation period.

	Aug '21	Dec '21	May '22	Jul '22
Supplementation Period (mg/dL)	131	317	82	66
LDL Cholesterol (mg/dL)	-	110	149	74

Conclusion

The patient in this case had ischemic cardiomyopathy, which resulted in abnormal blood parameters related to kidney function and hyperlipidemia. These abnormalities were ultimately caused by an increased frequency of nocturia and excessive prescription of medications for diabetes and hyperlipidemia. In particular, although statins were prescribed to lower LDL levels, they paradoxically led to an over 2-fold increase in creatinine levels and a decrease in glomerular filtration rate (GFR) by more than 30%. This indicates that while statin therapy may assist in reducing LDL levels, it can ultimately become a risk factor due to significantly impaired kidney function. In fact, individuals taking statins often complain of muscle pain and weakness, which reflects structural damage to the muscles.[5]

Prior to OCNT administration, the patient exhibited a creatinine level of 1.12, which was similar to the upper reference limit, and an elevated blood urea nitrogen (BUN) level. The elevated BUN level can be attributed to increased protein breakdown and impaired renal function, leading to the accumulation of waste products that cannot be adequately excreted through urine.[6] The creatinine level initially showed a temporary increase as creatinine

in the muscle microvasculature was released during the early stages of nutrition therapy, but eventually returned to normal. Following OCNT, improvements were observed in the parameters related to red blood cells. The mean corpuscular volume (MCV), mean corpuscular hemoglobin concentration (MCHC), and hematocrit (HCT) all returned to normal ranges. It is noteworthy that these parameters were initially affected by ischemic cardiomyopathy. MCV reflects the volume of red blood cells, and an increased MCV suggests larger-than-average red blood cells, which can be associated with deficiencies in vitamins B9 and B12 known to support nuclear development of blood cells.[7,8]

When there is a deficiency of these vitamins, the nuclei of red blood cells become immature, resulting in underdeveloped cellular components and an increase in cell size. Enlarged red blood cells, known as megaloblastic cells, are unable to perform their normal functions, such as oxygen and carbon dioxide transport. MCHC represents the coloration of average red blood cells, as hemoglobin (the iron-containing protein responsible for oxygen transport) turns red upon binding with oxygen. A deficiency in hemoglobin indicates a reduced capacity for oxygen transport. HCT, on the other hand, reflects the proportion of red blood cells in the blood, and elevated levels can lead to increased blood viscosity and impaired blood flow. In this case, the patient's MCV and MCHC values deviated from the average range, and the HCT level was high. Therefore, it can be speculated that the increased HCT is due to the production of immature red blood cells. The inclusion of essential components for mature red blood cell production, such as in the formulation of Cyaplex Mineral Bamboo Salt (containing minerals) and Hemoplex (containing iron, vitamin B12, and folic acid), may contribute to the restoration of HCT levels.[9]

Furthermore, the patient exhibited elevated levels of triglycerides, indicating hypertriglyceridemia. However, it was observed that after the implementation of OCNT, the triglyceride levels gradually decreased and approached the normal range (Table 2). The triglyceride level of 317 mg/dL is believed to be a result of the mobilization of fats from hepatic cells or visceral fat during the process of antioxidant detoxification. Additionally, when bile secretion or body fluid is insufficient, triglycerides are excreted through the hepatic portal vein, which may explain the high triglyceride levels observed. One of the underlying causes of triglyceride elevation is increased insulin resistance of the cell membrane. Therefore, it can be inferred that improving the fluidity of the cell membrane and removing toxic substances from membrane receptors could enhance energy metabolism and potentially resolve elevated triglyceride levels.[10]

LDL cholesterol levels showed a sharp increase when statin medication was discontinued in May 2022. However, upon switching to Monacol capsules as a substitute for statin therapy, the LDL cholesterol levels appeared to stabilize compared to the previous period. Monacolin-K (Lovastatin) is the active ingredient in Monacol capsules, and it selectively inhibits the HMG-CoA reductase enzyme, which is the rate-determining step in endogenous cholesterol synthesis.[11,12] By doing so, it reduces the concentration of cholesterol bound to low-density lipoprotein (LDL), leading to a decrease in serum cholesterol levels. Additionally, supplements such as Collaplex, which contains collagen, and Eufaplex, which contains omega-3 fatty acids, are expected to contribute to improving overall blood parameters and reducing cholesterol-related markers.[13]

This case report represents a single case and cannot be generalized to all patients. However, it presents a noteworthy example of how Ortho-Cellular Nutrition Therapy (OCNT) may provide benefits in the context of complex conditions, such as improvement in cardiovascular and renal function, as well as the

management of dyslipidemia. This report is shared with the patient's consent.

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