OCNT Ortho-Cellular Nutrition Therapy

Case Report

세포교정영양요법(OCNT)을 이용한 만성 동맥경화 개선 사례

양정원

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A Case of Improvement in Chronic Atherosclerosis Using Ortho-Cellular Nutrition Therapy (OCNT)

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ABSTRACT

Objective: Arteriosclerosis refers to a condition in which the arterial walls become thickened, lose elasticity, and become stiff. It is generally used as an umbrella term that includes atherosclerosis, arteriolosclerosis, and Mönckeberg medial calcific sclerosis. Arterial wall stiffness can reduce vascular compliance, thereby increasing systolic blood pressure and pulse pressure.

Case Report: The patient in this case was a Korean man in his 80s who was diagnosed with chronic arteriosclerosis in 2018. Accordingly, Ortho-Cellular Nutrition Therapy (OCNT), including *Angelica gigas*, *Panax notoginseng*, anthocyanins, omega-3 fatty acids, and monacolin K, was administered. Follow-up examinations confirmed that the arteriosclerosis had shown no further progression and remained stable.

Conclusion: The OCNT administered in this case was a personalized regimen tailored to a single patient and therefore has limited generalizability to other patients with arteriosclerosis. However, it is considered clinically meaningful in that the patient's condition remained stable without further deterioration.

Keywords Ortho-Cellular Nutrition Therapy (OCNT), Arteriosclerosis, Hypertension, *Angelica gigas*, *Panax notoginseng*, Anthocyanin

Introduction

Arteriosclerosis is defined as a condition in which the arterial walls become thickened and less elastic, resulting in increased stiffness. The term is generally used as a broad term encompassing several forms, including atherosclerosis, arteriolosclerosis, and Mönckeberg medial calcific sclerosis. Arterial wall stiffness can reduce vascular compliance, thereby increasing systolic blood pressure and pulse pressure. The resulting increase in left ventricular afterload may contribute to left ventricular hypertrophy.[1]

Anatomically, arteries can be classified according to their size and the composition of the vessel wall into elastic arteries, muscular arteries, small arteries, and arterioles. The arterial wall generally consists of three layers: the tunica intima, tunica media, and tunica adventitia. The innermost layer, the tunica intima, contains endothelial cells, whereas the tunica media is composed predominantly of smooth muscle cells and elastic components that participate in vascular contraction and relaxation. The outermost tunica adventitia consists mainly of connective tissue containing collagen and elastic fibers and provides support to the vessel wall. The internal elastic lamina lies at the interface between the tunica intima and tunica media, and in some arteries, an external elastic lamina is present between the tunica media and tunica adventitia.[2]

Arteriosclerosis is associated with structural changes primarily involving the tunica intima and tunica media of the arterial wall. In atherosclerosis, endothelial dysfunction is followed by the accumulation of lipids and inflammatory cells in the intima, accompanied by smooth muscle cell migration and proliferation and extracellular matrix deposition, leading to the formation of atherosclerotic plaques. In contrast, the tunica media may exhibit fragmentation and loss of elastic fibers, increased collagen deposition, alterations in smooth muscle cells, and calcification with aging and the progression of vascular disease. These structural alterations reduce the elasticity of the arterial wall and increase its stiffness. In particular, Mönckeberg medial calcific sclerosis is characterized primarily by calcification of the tunica media in muscular arteries and, unlike atherosclerosis, is more closely associated with increased arterial wall stiffness than with direct narrowing of the vascular lumen caused by atherosclerotic plaques.[3]

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Arterial stiffness associated with arteriosclerosis may be assessed using pulse wave velocity as well as measurements of local arterial distensibility or compliance. Pulse wave velocity measures the speed at which the pulse wave generated by cardiac contraction is transmitted along the arterial tree, and carotid-femoral pulse wave velocity (cfPWV) is widely used as a standard method for evaluating aortic stiffness. Arterial distensibility reflects the relative change in arterial cross-sectional area in response to a local pressure change, whereas arterial compliance denotes the absolute change in arterial cross-sectional area for a given change in arterial pressure. Arteriosclerotic changes may remain asymptomatic in the early stages. However, if atherosclerosis develops in the carotid artery and causes severe narrowing of the vascular lumen, or if a thrombus or embolus originating from an atherosclerotic plaque occludes a cerebral vessel, a transient ischemic attack or ischemic stroke may occur. Following a stroke, sequelae such as hemiplegia, language disturbances, and cognitive impairment may develop depending on the location and extent of the lesion, and severe cases may be life-threatening. Treatment of arteriosclerotic vascular disease varies according to the patient's risk factors and the location and severity of the lesion and may include pharmacological therapy with antiplatelet agents and lipid-lowering agents, as well as control of blood pressure and blood glucose and lifestyle management.[4]

The patient in this case reported having experienced arteriosclerosis-related symptoms for approximately 8 years. Accordingly, Ortho-Cellular Nutrition Therapy (OCNT) was implemented as a nutritional intervention, and the patient's clinical course was monitored using CT and MRI findings. Continued OCNT was associated with stable vascular findings. Therefore, this case is reported with the patient's informed consent.

Case Study

1. Subject
One patient with chronic arteriosclerosis was included in this case report.

1) Name: Kim ○○ (83 years old / M)
2) Diagnosis: Chronic arteriosclerosis
3) Date of onset: May 2018
4) Treatment period: May 2018–present (2026)
5) Chief complaint: Arteriosclerosis
6) Past medical history: Essential hypertension
7) Social history: Alcohol consumption
8) Family history: Father with hypertension and colorectal cancer, sibling with hypertension
9) Present illness and current medications: Aspirin Enteric Coated Tablet 100 mg, Cresante Tablet 20 mg, Sevikar Tablet 5/20 mg, Yuclid Tablet 250/80 mg, Promac Tablet, Neuren Tablet, Beacept Tablet 5 mg, Plavix A Tablet, Crestor Tablet 20 mg, Tenormin

2. Methods
The following OCNT regimen was prescribed.

- Notoplex Granules 101 (1 sachet per dose, twice daily)
- Cyaplex X Granules 101 (1 sachet per dose, twice daily)
- Eufaplex Alpha Capsules 303 (3 capsules per dose, twice daily)
- TMplex F Granules 101 (1 sachet per dose, twice daily)
- Monacol Capsules 202 (2 capsules per dose, twice daily)
- NO Booster Capsules 202 (2 capsules per dose, twice daily)
- Sulfoplex PK Tablets 404 (4 capsules per dose, twice daily)
- Viva Circu Capsules 101 (1 capsule per dose, twice daily)
- Nutaplex Granules 101 (1 capsule per dose, twice daily)
- Cyaplex Balm (applied 2–3 times daily)

Results

The patient had a history of hypertension and was diagnosed with chronic arteriosclerosis 8 years previously, for which medication was prescribed. The patient later visited a pharmacy and underwent OCNT. On follow-up, the pre-existing arteriosclerosis was found to have remained stable without marked progression. In addition, the patient reported improvement in purpura following the use of a topical agent.

Discussion

The patient in this case had a history of essential hypertension since his early 40s and had been taking antihypertensive medication prescribed by a physician. Approximately 8 years earlier, he began to experience symptoms suggestive of cognitive decline, including declining calculation ability and memory loss. CT and MRI examinations were subsequently performed, resulting in a diagnosis of chronic arteriosclerosis. Thereafter, the patient continued pharmacological treatment for arteriosclerosis and, considering his age, underlying conditions, and overall health status, sought to incorporate a personalized nutritional regimen alongside his existing treatment to support vascular health and prevent further worsening of arteriosclerosis.

Notoplex prescribed to the patient is rich in *Angelica gigas* and *Panax notoginseng*. *Angelica gigas* contains a variety of bioactive compounds and has been reported to influence the cardiovascular system through several mechanisms, including antioxidant and anti-inflammatory activities and suppression of platelet aggregation. Ferulic acid, one of its major active constituents, in particular, may help maintain vascular function by reducing oxidative stress and inhibiting platelet aggregation and thrombus formation.[5] *Panax notoginseng* saponins (PNS), the principal active constituents of *Panax notoginseng*, are also known to exert cardioprotective effects through suppression of vascular inflammation and platelet aggregation as well as modulation of lipid metabolism. Animal studies have shown that PNS can inhibit the expression of inflammatory adhesion molecules in vascular endothelial cells, reduce monocyte adhesion to endothelial cells, and attenuate the formation of atherosclerotic lesions. Therefore, in this case, a regimen containing *Angelica gigas* and *Panax notoginseng* was prescribed to help regulate vascular inflammation and oxidative stress and maintain blood flow and arterial health.[6]

Anthocyanins present in Cyaplex X, which was also prescribed to the patient, are flavonoid polyphenolic compounds known to support cardiovascular health through antioxidant and anti-inflammatory activities. Beyond their direct antioxidant effects, anthocyanins activate the Nrf2 pathway and thereby

modulate intracellular antioxidant defense mechanisms, while reducing oxidative stress and inflammatory responses in vascular endothelial cells and macrophages involved in the development of atherosclerosis. In addition, clinical studies involving anthocyanin-rich foods and extracts have reported improvements in flow-mediated dilation, a marker of endothelial function.[7] Accordingly, in this case, anthocyanin-containing polyphenolic compounds were prescribed to help modulate oxidative stress and inflammatory responses and support endothelial function and arterial health.

Omega-3 fatty acids prescribed to the patient are a class of polyunsaturated fatty acids that may support cardiovascular and arterial health through multiple mechanisms, including lowering triglyceride levels and modulating inflammatory responses. In particular, in relation to endothelial dysfunction, which represents one of the early pathological changes associated with arteriosclerosis, omega-3 fatty acid intake has been reported to enhance flow-mediated dilation and thereby improve endothelial function.[8] Accordingly, omega-3 fatty acids were prescribed in this case to help improve endothelial function, regulate lipid metabolism, and support arterial health.

Monacol contains a high amount of red yeast rice powder. Red yeast rice is produced by fermenting rice with the fungus *Monascus purpureus* and contains monacolin K as one of its principal bioactive constituents. Monacolin K may help regulate blood cholesterol levels by inhibiting HMG-CoA reductase, a key enzyme involved in cholesterol biosynthesis. A meta-analysis of clinical studies reported that red yeast rice intake significantly reduced total cholesterol and LDL cholesterol levels, and these lipid-lowering effects may contribute to the management of elevated LDL cholesterol, a major risk factor for arteriosclerosis.[9] Therefore, in this case, red yeast rice containing monacolin K was prescribed to help regulate lipid metabolism and support arterial health.

The patient in this case had received OCNT continuously since 2018. Because essential hypertension and chronic arteriosclerosis were present as underlying conditions, the principal objectives were to prevent further deterioration of vascular health and maintain a stable clinical condition. Accordingly, multiple nutrients that may contribute to vascular function, lipid metabolism, and oxidative stress regulation were provided in combination, and the patient's overall condition remained stable during the observation period without marked worsening of symptoms associated with arteriosclerosis. However, it is difficult to conclude that OCNT administered in this case directly suppressed the progression of arteriosclerosis, and the findings cannot be generalized to all patients with arteriosclerosis because this was a single case. Nevertheless, the stable clinical course without further deterioration suggests that appropriate nutritional supplementation may have contributed to supporting vascular health and managing risk factors for arteriosclerosis. Therefore, this case is reported with the patient's informed consent.

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