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Case Report

세포교정영양요법(OCNT)를 이용한 중증근무력증 개선사례

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A Case Study on Improvement of Myasthenia Gravis Using Ortho-Cellular Nutrition Therapy (OCNT)

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ABSTRACT
Objective: Improvement of myasthenia gravis through Ortho-Cellular Nutrition Therapy (OCNT).
Methods: A 52-year-old patient with myasthenia gravis was prescribed 21 different OCNT treatments, including Cyaplex.
Results: Following the administration of OCNT, symptoms such as eyelid ptosis, masticatory dysfunction, diplopia, and fatigue showed improvement.
Conclusion: OCNT can assist in alleviating and mitigating symptoms for patients suffering from thymoma and myasthenia gravis.

Keywords Ortho-Cellular Nutrition Therapy (OCNT), myasthenia gravis, ptosis, masticatory dysfunction, diplopia, fatigue, thymoma

INTRODUCTION

Myasthenia gravis is a neuroimmunological disorder affecting the postsynaptic membrane in the neuromuscular junction (NMJ) and characterized by fluctuating muscle weakness and fatigue due to acetylcholine receptor dysfunction.[1] Muscles are driven by neurons thar are connected to the NMJ. Normally, the neurotransmitter acetylcholine is released at the neuromuscular junction, binding to acetylcholine receptors at the muscle site. However, when antibodies against acetylcholine receptors are formed within the body, these receptors are damaged and destroyed, leading to the disease.

Myasthenia gravis is classified as an autoimmune disorder due to the body's immune response; it is estimated to have a prevalence of 14.5 per 100,000 individuals. Historically, many patients with advanced myasthenia gravis died from respiratory muscle paralysis; however, mortality rates have significantly decreased with the development of therapeutic drugs.

Clinically, the disease primarily affects ocular, bulbar, axial, limb, and respiratory muscles, manifesting as muscle fatigue and weakness.[2] Common symptoms include eyelid and extraocular muscle weakness, resulting in ptosis and diplopia, as well as weakness in facial and masticatory muscles, and difficulty swallowing.

Interestingly, the symptoms are typically milder in the morning and worsen in the afternoon. During the initial years after onset, exacerbation and remission alternate, with muscle weakness predominantly affecting muscles controlled by cranial nerves. Approximately 15% of patients present with ocular myasthenia gravis, while about 85% initially appear to have symptoms limited to the eyes, but the disease progressively involves other muscle groups. Electron microscopy of the neuromuscular junction in myasthenia gravis patients reveals simplification and flattening of synaptic folds and reduced acetylcholine receptors.

Specific treatment for myasthenia gravis remains unknown. Clinically, treatments include immunosuppressants, immunomodulators, steroids, and calcineurin inhibitor.[3] Also, applying acetylcholinesterase inhibitors, thymectomy, plasmapheresis, and intravenous immunoglobulin are considered as other therapies. Immunosuppressive treatments, including steroids and azathioprine, are also administered. Thymectomy is performed on patients with thymoma detected via CT scan, with symptomatic improvement observed months to years after thymoma removal.

CASE STUDY

1. Subject
A case study involving a patient with myasthenia gravis.

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1) Name: Jung OO (F/52 years)
2) Diagnosis: Thymoma, myasthenia gravis
3) Onset date: August 2023
4) Treatment duration: August 2023 - Present (approximately eight months)
5) Main symptoms: Ptosis, diplopia, masticatory dysfunction, thymoma
6) Medical history: Ovarian cysts, uterine fibroids, surgery for uterine fibroids and endometrium in 2013
7) Social history: None
8) Family history: Father – died in his 70s post-colorectal cancer surgery; Mother – hypertension, hyperlipidemia, arrhythmia in her late 70s
9) Current condition and medication: None

2. Patient Progress and Methodology

The patient, presented with eyelid drooping, diplopia, and masticatory dysfunction, was diagnosed with suspected myasthenia gravis at a local ophthalmology clinic a week after symptom onset. Under the assumption of myasthenia gravis, Ortho-Cellular Nutrition Therapy (OCNT) was prescribed to lower antibody levels in autoimmune disorders and alleviate symptoms of myasthenia gravis.

In the first month of OCNT, dizziness and reduced concentration symptoms emerged, along with greenish stool changes, prompting the addition of Hemoplex capsules, Hoduplex capsules, Bioplex capsules, and Curcuplex capsules to the regimen.

In the second month, the patient, following a specialist's recommendation, took Mestinon tablets, 2-4 tablets per day without steroids. The dosage of Licoplex was reduced during this period and the remaining OCNT continued.

The same OCNT regimen was maintained through the third month, with Mestinon taken every three days, two tablets per week, then discontinued.

In the fourth month, following thymectomy, additional Resplex granules and Cyaplex X granules were incorporated into the treatment, with adjustments made to Licoplex based on symptoms.

In the fifth month, a neurologist recommended discontinuation of Mestinon as the patient was considered in remission from myasthenia gravis. Thus, Selenplex capsules were added to the existing OCNT regimen. Since then, there have been no new occurrences of myasthenia gravis, though symptoms of fatigue and eyelid drooping persisted. Therefore, dose of Licoplex increased.

Currently, there are no symptoms of myasthenia gravis, but due to the risk of relapse, OCNT continues to be maintained. The OCNT regimen and dosages are detailed in the table below (Table 1).

Table 1. Prescriptions for Ortho-Cellular Nutrition Therapy (OCNT)

Type/Month	1	2	3	4	5
Licoplex	(222, three times daily, two sachets per dose)	(202, twice daily, two sachets per dose)		Reduced dosage depending on symptoms	(202, twice daily, two sachets per dose)
Cyaplex F granules	(101, twice daily, one sachet per dose)		(202, twice daily, two sachets per dose)		
Eufaplex Alpha Stick	(101, twice daily, one sachet per dose)				
Betaplex granules	(101, twice daily, one sachet per dose)				
Collaplex granules	(101, twice daily, one sachet per dose)				
Enzaplex F granules	(101, twice daily, one sachet per dose)				
Notoplex granules	(101, twice daily, one sachet per dose)				
Sulfoplex granules	(101, twice daily, one sachet per dose)				
Tmplex granules	(101, twice daily, one sachet per dose)				
Aqua SAC Pure	(101, twice daily, one sachet per dose)		Changed to Aqua SAC (101, twice daily, 10ml per dose)		
Heartberry Black	(101, twice daily, one sachet per dose)				
Hemoplex capsules	(202, twice daily, two capsules per dose)				
Hoduplex capsules	(202, twice daily, two capsules per dose)				
Bioplex-F granules	(101, twice daily, one sachet per dose)				
Curcuplex capsules	(101, twice daily, one capsule per dose)				
Caroplex capsules	Not taken	(101, twice daily, one capsule per dose)			
Diverol	Not taken	(101, twice daily, one capsule per dose)			
Mineral Rock Salt	Not taken		(Twice daily, 1/2 sachet per dose)		
Resplex granules	Not taken			(101, twice daily, one sachet per dose)	
Cyaplex X granules	Not taken			(101, twice daily, one sachet per dose)	
Selenplex capsules	Not taken			(202, twice daily, two capsules per dose)	
Mestinon	Not taken	2-4 tablets daily	(Two tablets every three days, discontinued after one week)	Discontinued	

RESULT

One month after initiating OCNT, noticeable improvement was observed in eyelid ptosis, and masticatory dysfunction was significantly reduced by the second month, with complete resolution by the third month. Additionally, the patient's diplopia improved from a symptom score of 4 to 1 between the first and second months. The patient's fatigue progressively decreased over approximately five months (Table 2).

Table 2. Degree of Symptoms Experienced by the Patient During OCNT Treatment

Symptom/Month	One	Two	Three	Four	Five	Notes
Ptosis	5	4	1	0	0	Eyelids occasionally heavy but clinically normal
Masticatory dysfunction	4	2	0	0	0	Completely resolved
Diplopia	4	1	0	0	0	Completely resolved
Fatigue	5	3	2	1	0	Completely resolved

0: No symptoms; 1: Symptoms are mild and hardly affect daily life; 2: Symptoms are more pronounced, requiring some adjustment in daily activities; 3: Symptoms significantly affect daily life, causing difficulty in performing some activities; 4: Symptoms greatly hinder activity during daily life; 5: Symptoms cause discomfort and severe stress in daily life.

Table 3. Blood Markers During OCNT: Acetylcholine Receptor Antibody Levels and MGFA

Blood and Evaluation Markers	1	2	3	4	Notes
Acetylcholine Receptor Antibody Levels	-	7.6	-	7.5	Symptoms absent, but recurrence possible due to no improvement in antibody levels
MGFA	Ⅱa	Ⅱb	Ⅰ	Ⅰ	Muscle function is fully recovered, but physical strain induces muscle fatigue

MGFA: Myasthenia gravis Foundation of America,
I: Ocular Myasthenia gravis, II: Mild, III: Moderate, IV: Severe
a: Predominantly limb and axial muscles affected, b: Bulbar and respiratory muscles affected

Blood markers assessed included the acetylcholine receptor antibody index and MGFA. The acetylcholine receptor antibody levels were 7.6 two months post-treatment and 7.5 at four months, showing no significant change (Table 3).

Two weeks into OCNT, a hospital conducted a blood test and reported no diplopia. Dizziness and reduced concentration were noted, along with greenish stool changes. However, one month after OCNT, the patient felt an increase in muscle strength, and myasthenia gravis symptoms were alleviated.

At two months, the patient was diagnosed with myasthenia gravis with an acetylcholine receptor antibody level of 7.6 but did not report symptoms. The same OCNT regimen was maintained through the third month, and thymectomy was performed in the fourth month. A neurologist's recommendation led to the discontinuation of Mestinon in the fifth month, and the patient was considered in remission from myasthenia gravis. Post-surgery, a thoracic pathology examination reclassified the malignancy from type C thymoma to type BII thymoma, and the patient received prophylactic radiation therapy due to lung resection. Since then, there have been no new occurrences of myasthenia gravis, though fatigue and eyelid drooping symptoms persisted.

At six months, no Myasthenia gravis symptoms were reported, but due to high antibody levels, OCNT is being maintained to prevent relapse.

DISCUSSION

Following the onset of symptoms and a subsequent diagnosis of suspected myasthenia gravis, the administration of Ortho-Cellular Nutrition Therapy (OCNT) and Licoplex appears to have contributed to improving and alleviating the patient's muscle weakness symptoms. Initially, Licoplex was administered to block the antigen-antibody response and help reduce muscle weakness symptoms caused by autoimmune antibodies through glycyrrhizin and polysaccharides-rich licorice extract. These extracts are known to activate natural steroids within the body and protect liver.[4]

Studies have reported that licorice extract, a key component of Licoplex, stimulates macrophages, enhancing and supporting immune stimulation. The intake of licorice and milk thistle extracts via Licoplex showed effects similar to steroids, rapidly improving the initial symptoms. At the time of myasthenia gravis confirmation, informing the treating physician that the patient was taking natural plant-based steroid adjuncts led to a prescription of Mestinon alone without synthetic steroids.

Initially, the symptoms of myasthenia gravis included difficulty reading due to diplopia, severe ptosis in one eye, and weakened mastication muscles. However, these related symptoms were resolved approximately 45 days after starting OCNT. It took about two months and 20 days for the neurology department to discontinue the myasthenia gravis prescription drugs.

Approximately 15% of Myasthenia gravis patients are found to have thymoma, and 65% show abnormal thymic hyperplasia; therefore, Cyaplex F granules containing anthocyanins, a strong antioxidant and natural anticancer immune substance, were administered from the outset to assist in alleviating thymoma.[6] Enzaplex F, containing postzyme, is known to promote the survival of intestinal epithelial cells and enhance the function of the intestinal barrier, strengthening innate immunity.[7] The cyanidin glycosides and natural organic acids induced by polyphenols in Heartberry Black reduce the cytoplasmic pH, influencing cellular metabolic activities[8] and providing an acidic environment necessary for protein digestion in the stomach. Collagen in Collaplex, a structural protein that constitutes the extracellular matrix (ECM), maintains cell structure.[9] Hyaluronic acid in Collaplex mitigates skin necrosis and regenerates tissue, strengthening the cell membrane.[10] Therefore, Collaplex is believed to assist in providing proteoglycans and structural proteins to the hardened ECM of cancer patients.

Beta-glucan in Betaplex protects macrophages within the body, facilitates metabolism, and increases mitochondrial content and membrane potential in macrophages.[11] Additionally, the glyconutrient supply in Betaplex can supplement the glycocalyx of the cell membrane, particularly in diseases like autoimmune disorders where cell communication is impaired.

Zinc contained in Tmplex is an essential nutrient affecting the development of a normal immune system, lymphocyte activation, proliferation, and apoptosis regulation.[12] According to reports that carotenoids regulate T cells, it appears that Caroplex[13], which contains carotenoids, and Eufaplex, which

includes Non-Oxidized Essential Unsaturated Fatty Acids (NOEUFA) necessary for cell membrane activation, were also beneficial.[14] Since maintaining the integrity of intestinal mucosal cells is crucial in autoimmune diseases, prescribing natural dietary fiber agents like Bioplex and Curcuplex capsules aimed to improve intestinal immune status. Myasthenia gravis primarily affects muscles controlled by cranial nerves, so additional prescription of Hoduplex was intended to provide a supportive effect on cranial nerves. Additionally, the patient's high medication adherence and sufficient rest and sleep appeared to have aided in a swift recovery.

Especially after being diagnosed with thymoma, the tumor grew from 7 cm to about 9 cm until surgery, but a tissue examination ultimately reclassified the thymic carcinoma as thymoma. It is assumed that the softening of the ECM surrounding the tumor altered its characteristics.

After diagnosis with Myasthenia gravis and thymoma, the patient intermittently took Mestinon to manage ptosis. Despite not receiving chemotherapy or steroid therapy, the patient exhibited no symptoms of myasthenia gravis, and the thymic carcinoma was reclassified as thymoma.

Subsequent blood tests showed acetylcholine receptor antibody levels still exceeding the diagnostic threshold for Myasthenia gravis at 5, yet the patient maintains a normal life without steroids and Mestinon. OCNT likely helps alleviate symptoms of Myasthenia gravis, such as eyelid drooping, diplopia, and masticatory dysfunction.

This paper aimed to demonstrate that patients can manage myasthenia gravis symptoms through OCNT without relying solely on steroids and immunomodulatory drugs, without side effects, and without compromising their health.

This case study represents a single instance and cannot be universally applied to all patients with myasthenia gravis. However, it is reported with the patient's consent as it appears to have improved quality of life and alleviated symptoms through the use of OCNT.

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