

세포교정영양요법(OCNT)을 이용한 성장부진 개선 사례

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Improvement of Growth Retardation Using Ortho-Cellular Nutrition Therapy (OCNT)

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ABSTRACT

Objective: A case report of improving growth retardation through Ortho-Cellular Nutrition Therapy (OCNT).

Methods: OCNT was applied to a 6-year-old patient who presented with short stature, slightly delayed language development, and frequent colds.

Results: After implementing OCNT, the patient's height increased by approximately 20 cm, and language skills improved to a level similar to peers of the same age. Furthermore, the frequency of cold symptoms significantly decreased.

Conclusion: Applying OCNT may help alleviate symptoms in patients experiencing growth retardation and weakened immunity.

Keywords: Ortho-Cellular Nutrition Therapy (OCNT), Growth retardation, Immune System, Brain Development

Introduction

Growth during infancy and early childhood encompasses physical, linguistic, cognitive, and social development, generally continuing from conception until the age of eight. According to the World Health Organization (WHO), the factors necessary for a child's development during this period are defined as "Nurturing care", which includes basic health management and preventive measures, as well as sufficient and appropriate nutritional support. In particular, because brain development proceeds rapidly during early childhood, its importance is further emphasized.¹

If an infant's physical or cognitive growth rate seems slow, examinations may be conducted to diagnose growth retardation or growth disorders. Physical growth retardation may be diagnosed by measuring height, comparing it against pediatric and adolescent growth charts to estimate the percentile, or by calculating other anthropometric indicators, such as the ratio of the upper and lower body segments.² Cognitive developmental delay can be diagnosed by assessing motor development abilities, including walking, and language skills such as word usage or

sentence formation.³ If growth retardation is not resolved in a timely manner, it may negatively affect long-term growth, including neurodevelopment and the formation of the immune system.⁴ Therefore, if growth retardation is suspected, proper diagnosis and treatment should be provided.

Overcoming growth retardation in early childhood requires proper nutritional support. This not only affects overall physical growth during developmental stages but is also essential for cognitive and emotional development, social growth, health promotion, and immune system formation. Through its Infant and Young Child Feeding (IYCF) strategy, the WHO underscores the importance of adequate nutrition during infancy and early childhood, recommending dietary diversity, appropriate meal frequency, and enhanced intake of nutrients critical for growth, such as zinc and iron. If children in their growth stage are not provided with the nutrients they need, there is a possibility that their development will be adversely affected. They also become more susceptible to infectious diseases such as colds, diarrhea, and pneumonia. In the long term, it is known that the risk of chronic conditions like obesity, hypertension, and metabolic syndrome increases.⁵ Therefore, supplying the right nutrients in the right amounts at the appropriate time plays an extremely important role for children during their growth stage.

The patient in this case frequently suffered from colds and was often prescribed medication, and also showed signs of growth retardation. Accordingly, OCNT was prescribed, and it was confirmed that there was a significant improvement in cold symptoms as well as a positive effect on the developmental

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process. Therefore, with the consent of the patient and legal guardian, this case is reported.

Case Study

1. Subject

One case of a patient with growth retardation was selected as the subject.

- 1) Name: Cheon OO (6 years old / F)
- 2) Diagnosis: Growth retardation
- 3) Date of onset: Unknown
- 4) Treatment duration: May 2024 – Present
- 5) Primary symptoms: Frequent colds, delayed height, and delayed language development
- 6) Medical history: Small appetite
- 7) Social history: None
- 8) Family history: None
- 9) Medications and Treatments Applied: Has had cold symptoms for 2 years. From June 2023, cold medication was prescribed and taken 4–9 times a month.

2. Methods

The OCNT was prescribed as follows:

Viva Kids Gold (101, twice a day, 1 sachet per dose)

Once the cold symptoms began to subside, the frequency of administration was reduced to 100 (once a day, 1 sachet per dose). The patient was also instructed to avoid ramen, snacks, takeout, and instant foods.

Results

Due to frequent colds, this patient was often prescribed medications, and as a result, consistently ate small amounts of food. Physical growth and language development were slightly slower compared to peers of the same age. Therefore, OCNT was administered to address these symptoms.

After implementing OCNT, both the severity of the cold symptoms and the frequency of medication prescriptions decreased significantly. The patient's appetite improved to the point of eating one to two bowls of rice per meal, and height increased from 90 cm to 110 cm over six months. In addition, although language development had been delayed before OCNT, the patient gradually showed faster progress in learning the Korean alphabet following OCNT. By the later stage of OCNT, language ability had improved to a level similar to peers of the same age, and the patient also showed enthusiasm for learning a foreign language spoken by her mother.

Discussion

The patient in this case is a 6-year-old female child who frequently caught colds, resulting in frequent medication prescriptions. In severe cases, symptom recovery was poor, necessitating up to eight prescriptions per month and frequent pharmacy visits. Her height was around 90 cm, which is shorter than children of the same age, and she was found to have a small appetite. Furthermore, she spoke very little, and her language development appeared delayed. I therefore determined that she was experiencing delay in general growth and applied OCNT to

address these issues. Specifically, I aimed to strengthen immunity, stimulate appetite, normalize the digestive system for improved nutrient supply, and enhance brain activity. To achieve these goals, we prescribed Viva Kids Gold, which contains the following nutrients.

Zinc is among the most crucial essential nutrients for children's growth period. At the cellular and molecular levels, it is a key component of enzymes, transcription factors, and other factors that regulate metabolic pathways. It is also indispensable in various processes, including cell cycle regulation (cell proliferation, differentiation, and apoptosis), physical growth and development, immune response, and cognitive function. Additionally, it participates in the synthesis of leptin, a hormone that controls appetite, thus indirectly affecting appetite. A deficiency in zinc can cause problems such as decreased immune function, increased susceptibility to infections, and delayed growth and development in infants and young children. According to WHO reports, approximately 800,000 people worldwide die each year from illnesses related to zinc deficiency, with about 50% of these deaths occurring in children under the age of five.^{6,7} Therefore, adequate zinc intake is critical during the growth phase.

Vitamin D aids in the absorption of calcium and phosphorus, contributing to skeletal formation. Numerous studies have also indicated that vitamin D helps maintain immune function. When this nutrient is deficient, there is an increased likelihood of allergic disorders, respiratory diseases, and dental caries. In China, a study conducted among infants and young children in Hangzhou examined associations between vitamin D and health indicators such as obesity, tooth decay, and respiratory infections. The results revealed a significant correlation between insufficient vitamin D and the incidence of these conditions.⁸ Hence, ensuring sufficient vitamin D intake is essential for boosting immunity and supporting skeletal development.

Both zinc and vitamin D are widely recognized as necessary nutrients for children during their growth stages. Beyond that, we sought to assist symptom improvement and overall healthy development by providing a wide array of nutrients. In particular, we used anthocyanin and beta-carotene, both of which can help fortify immunity. Anthocyanin, a type of flavonoid found in berry fruits like aronia, reduces nitric oxide production and inhibits the expression of inflammation-related genes, thus producing an anti-inflammatory effect. It also activates macrophages, promotes lymphocyte proliferation, and bolsters immune responses while mitigating oxidative stress, thereby preventing excessive immune reactions.⁹ Beta-carotene, a nutrient that is converted into vitamin A once absorbed in the body, boosts overall immunity by increasing the activity of white blood cells and enhancing T-cell and B-cell functions.¹⁰

Iron binds with hemoglobin in the body to transport oxygen. If children in their growth period lack iron, they may develop iron-deficiency anemia.¹¹ Additionally, one study explored the correlation between iron and appetite. According to that study, iron deficiency led to reduced appetite, whereas supplying iron separately improved decreased appetite symptoms. This is thought to be due to the mechanism by which iron supplementation reduces the expression of leptin, which suppresses appetite, thereby restoring normal appetite.¹²

Postbiotics refer to inactivated microorganisms and their components that confer health benefits to the host. Various studies have investigated their advantages for infants and young

children, revealing a reduced risk of infectious diseases such as respiratory infections, a decreased incidence of gastrointestinal illnesses like diarrhea, and fewer allergic reactions.¹³ Accordingly, it appears likely that these nutrients contributed to improving the patient's gastrointestinal function.

Viva Kids Gold also contains phosphatidylserine. This component, an essential nutrient for neuronal cell membranes and myelin sheaths, is known to influence cognitive function. Multiple studies have found a connection between phosphatidylserine and cognitive abilities, indicating that it helps with overall brain functions such as short-term memory formation and long-term memory consolidation.¹⁴ Walnut extract is also included; it can help reduce oxidative stress and free radical levels, thereby enhancing antioxidant capacity. By minimizing cell damage, it can protect brain cells and aid in maintaining cognitive function.¹⁵

As a result of continued OCNT, the patient's height increased from the initial 90 cm to the current 110 cm, placing her at a growth level similar to peers of the same age. Moreover, the frequency and severity of her recurrent colds significantly declined, as did the number of medication prescriptions. Her previously delayed language ability also showed marked improvement, and she is now demonstrating enthusiasm for learning her mother's foreign language. Overall, these results suggest that OCNT contributed to ameliorating her general growth retardation.

Because this case involves only a single patient, there are limitations in applying these findings to all patients with growth retardation. Nonetheless, it is noteworthy that this relatively straightforward OCNT regimen improved the patient's growth retardation symptoms and helped reduce frequent colds by strengthening immunity. Hence, with the consent of the patient and her legal guardian, I report this case.

References

1. Organization WH. *Improving early childhood development: WHO guideline*. World Health Organization; 2020.
2. Lee KH. Growth assessment and diagnosis of growth disorders in childhood. *Clinical and Experimental Pediatrics*. 2003;46(12):1171-1177.
3. Brown KA, Parikh S, Patel DR. Understanding basic concepts of developmental diagnosis in children. *Translational pediatrics*. 2020;9(Suppl 1):S9.
4. Al Nofal A, Schwenk WF. Growth failure in children: a symptom or a disease? *Nutr Clin Pract*. Dec 2013;28(6):651-8.
5. Das JK, Salam RA, Imdad A, Bhutta ZA. Infant and young child growth. *Reproductive, Maternal, Newborn, and Child Health*. 2016:225.
6. Ackland ML, Michalczyk AA. Zinc and infant nutrition. *Arch Biochem Biophys*. Dec 1 2016;611:51-57.
7. Carreiro AL, Dhillon J, Gordon S, et al. The Macronutrients, Appetite, and Energy Intake. *Annu Rev Nutr*. Jul 17 2016;36:73-103.
8. Chen Z, Lv X, Hu W, Qian X, Wu T, Zhu Y. Vitamin D Status and Its Influence on the Health of Preschool Children in Hangzhou. *Front Public Health*. 2021;9:675403.
9. Zia Ul Haq M, Riaz M, Saad B, Zia-Ul-Haq M. Anthocyanins effects on carcinogenesis, immune system and the central nervous system. *Anthocyanins and Human Health: Biomolecular and therapeutic aspects*. 2016:125-138.
10. Tufail T, Bader Ul Ain H, Noreen S, Ikram A, Arshad MT, Abdullahi MA. Nutritional Benefits of Lycopene and Beta-Carotene: A Comprehensive Overview. *Food Sci Nutr*. Nov 2024;12(11):8715-8741.
11. Leung AKC, Lam JM, Wong AHC, Hon KL, Li X. Iron Deficiency Anemia: An Updated Review. *Curr Pediatr Rev*. 2024;20(3):339-356.
12. Andrews NC. Hungry irony. *J Clin Invest*. Sep 2015;125(9):3422-3.
13. Salminen S, Collado MC, Endo A, et al. The International Scientific Association of Probiotics and Prebiotics (ISAPP) consensus statement on the definition and scope of postbiotics. *Nat Rev Gastroenterol Hepatol*. Sep 2021;18(9):649-667.
14. Glade MJ, Smith K. Phosphatidylserine and the human brain. *Nutrition*. Jun 2015;31(6):781-6.
15. Chauhan A, Chauhan V. Beneficial Effects of Walnuts on Cognition and Brain Health. *Nutrients*. Feb 20 2020;12(2)