

## 세포교정영양요법(OCNT)을 이용한 혈액암 환자 사례 연구

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## A Case Study on Patients with Hematologic Malignancies Receiving Ortho-Cellular Nutrition Therapy (OCNT)

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## ABSTRACT

**Objective:** A case report on the improvement of patients with hematologic malignancies by Ortho-Cellular Nutrition Therapy (OCNT).

**Methods:** A 69-year-old Korean female diagnosed with Stage 4 ACUTE LYMPHOBLASTIC Leukemia (ALL) had a very low platelet count of 8000/ $\mu$ l.

**Results:** The platelet count improved to its normal level after Ortho-Cellular Nutrition Therapy (OCNT).

**Conclusion:** Ortho-Cellular Nutrition Therapy (OCNT) is effective in relieving the symptoms of acute lymphoblastic leukemia patients with thrombocytopenia.

**Keywords** Ortho-Cellular Nutrition Therapy (OCNT), ACUTE LYMPHOBLASTIC Leukemia (ALL), and Platelet

## Introduction

Leukemia is a disease caused by the proliferation of cancer cells that have been converted for some reasons from normal blood cells in the bone marrow, which is a hematopoietic organ in our body.<sup>1</sup> Leukemia cells proliferate indefinitely and interfere with the production of normal white blood cells, red blood cells, and platelets, thereby causing fatal problems in our body. Leukemia cells from the bone marrow that spread

throughout the body by the blood circulation may be deposited in the liver, spleen, lymph nodes, central nervous system, and various organs. ACUTE LYMPHOBLASTIC Leukemia (ALL) refers to a case in which changes in cancer cells occur mainly in lymphoid leukocytes while showing an acute progression. The causes of leukemia have not yet been precisely identified, but it is known that the genetic predisposition, viral infection, smoking, exposure to electromagnetic fields and radiation, occupational exposure to chemicals, and therapeutic agents such as anticancer drugs can cause the disease.<sup>2</sup> It is known that leukemia occurs when cancer genes are activated directly due to the aforementioned causes or by changes in the genes of the adjacent regions.<sup>3</sup> Most patients with acute leukemia show the symptoms of anemia, decreased white blood cells, and reduced platelets because cancer cells grown in the bone marrow inhibit normal hematopoiesis. As symptoms in the early stage, anemia, bleeding, infection, etc. often appear due to a decrease in normal blood cells, and bruising, nosebleeds, or bleeding from the gums may

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Received Apr 28, 2023; Accepted Apr 28, 2023; Published Apr 28, 2023

doi: <http://dx.doi.org/10.5667/CellMed.spc.020>

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

occur due to a decrease in platelets. In addition, Systemic symptoms, such as fever, weakness, fatigue, and weight loss, may appear due to the reduced immune function. Hematopoietic stem-cell transplantation is the most effective treatment for ACUTE LYMPHOBLASTIC Leukemia (ALL), but it may increase mortality or cause the risk of developing other cancers due to sequelae.<sup>4</sup>

The patient of this case was diagnosed with Stage 4 ACUTE LYMPHOBLASTIC Leukemia at Gangnam St. Mary's Hospital on May 29, 2018. The patient had been receiving chemotherapy at the hospital since March 2019, but was unable to eat properly due to energy exhaustion, so she had a very low platelet count of 8000/ $\mu$ l. The hospital notified the patient that bone marrow transplantation was the only treatment method, but it was also impossible to be performed due to the low platelet count and reduced immunity. It was intended to report the progress of Ortho-Cellular Nutrition Therapy (OCNT) applied to the patient.

## Case

### 1. Target

The subject of this case study was one patient with ACUTE LYMPHOBLASTIC Leukemia.

- 1) Name: Park O O (F/69 years old)
- 2) Diagnosis: Stage 4 ACUTE LYMPHOBLASTIC Leukemia
- 3) Date of onset: May 29, 2018
- 4) Treatment period: March 2019 to present
- 5) Chief complaint: Energy exhaustion due to chemotherapy and decreased platelet count and immunity
- 6) Medical history: None
- 7) Social history: None
- 8) Family medical history: None
- 9) History of present illness: None

### 2. Methods

Ortho-Cellular Nutrition Therapy (OCNT) began with an emphasis on restoring both the abnormal differentiation of hematopoietic stem cells and the bone marrow function to improve the platelet count.

Cyaplex F (222, 3 times a day, 2 packet per time)

Eufaplex Alpha (222, 3 times a day, 2 packet per time)

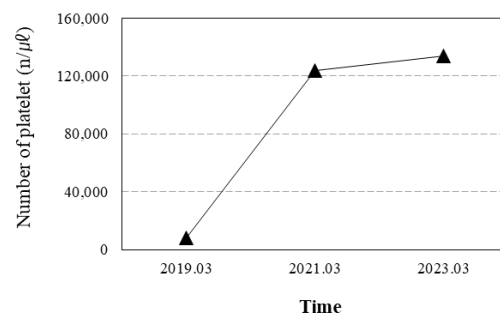
Betaplex (222, 3 times a day, 2 packet per time)

Enzaplex (222, 3 times a day, 2 packet per time)

The female patient took them for about five years.

## Results

The patient's platelet count was very low at 8,000/ $\mu$ l before ortho-cellular nutrition therapy (OCNT). About two years after Ortho-Cellular Nutrition Therapy (OCNT), the patient's platelet count recovered significantly to 124,000/ $\mu$ l and recently to a normal level of 134,000/ $\mu$ l (Figure 1).



**Figure 1.** Changes in the platelet count of the patient receiving Ortho-Cellular Nutrition Therapy (OCNT) over time.

## Considerations

The patient of this case had a very low platelet count of 8000/ $\mu$ l after being diagnosed with Stage 4 ACUTE LYMPHOBLASTIC Leukemia (ALL). As the unique function of platelets is hemostasis, bleeding appears when there is thrombocytopenia. Regarding the risk of life-threatening spontaneous bleeding, if the platelet count is less than 20,000 per 1mm<sup>3</sup>, bleeding may occur spontaneously even if blood vessels are not damaged, which occurs severely in the gastrointestinal tract or central nervous system. There are various causes of the thrombocytopenia, but the patient is thought to be caused by not producing enough platelets in the bone marrow, as is the case with leukemia and other bone marrow diseases. Therefore, it was thought that if hematopoietic stem cells in the bone marrow could differentiate normally, thrombocytopenia would naturally improve. It has been reported through the in vivo test that anthocyanin, the main ingredient of Cyaplex F and Betaplex, has resistance to thrombocytopenia caused by leukemia.<sup>5</sup> In addition, in vitro/in vivo tests have revealed that Fucoidan suppresses cancer cells by participating in the phosphatidylinositol-

4,5-bisphosphate 3-kinase/protein kinase B (PI3K/AKT) signaling pathway that performs various functions in the body.<sup>6</sup> It has been reported that omega 3 fatty acids in Eufaplex lower malondialdehyde caused by oxidative stress and have an effect on cardiovascular diseases in children diagnosed with ACUTE LYMPHOBLASTIC Leukemia (ALL).<sup>7</sup> In addition, it has been reported that Astragalus Membranaceus Lectin (AML) of Astragalus contained in Betaplex performs an anti-proliferation function by inducing apoptosis in chronic myeloid leukemia cells.<sup>8</sup>

There is a limitation in the interpretation of the results because this case study targeted one patient undergoing chemotherapy, and thrombocytopenia may be recovered without any treatment. However, the patient, whose quality of life was greatly reduced due to the diagnosis of hematologic malignancies and thrombocytopenia, was finally cured and, it was thought that Ortho-Cellular Nutrition Therapy (OCNT) might have been of great help in restoring the patient's bodily functions. Therefore, this case study is reported with the patient's prior consent.

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Ibrahim, A. M. Omega 3 fatty acids can reduce early doxorubicin-induced cardiotoxicity in children with acute lymphoblastic leukemia. *Pediatr Blood Cancer* **69**, e29496, doi:10.1002/pbc.29496 (2022).

Huang, L., Yan, Q., Kopparapu, N. K., Jiang, Z. & Sun, Y. J. C. p. Astragalus membranaceus lectin (AML) induces caspase-dependent apoptosis in human leukemia cells. **45**, 15-21 (2012).

## References

- 1 Whiteley, A. E., Price, T. T., Cantelli, G. & Sipkins, D. A. Leukaemia: a model metastatic disease. *Nat Rev Cancer* **21**, 461-475, doi:10.1038/s41568-021-00355-z (2021).
- 2 Rodriguez-Abreu, D., Bordoni, A. & Zucca, E. J. A. o. o. Epidemiology of hematological malignancies. **18**, i3-i8 (2007).
- 3 Lagunas-Rangel, F. A., Chavez-Valencia, V., Gomez-Guijosa, M. A. & Cortes-Penagos, C. Acute Myeloid Leukemia-Genetic Alterations and Their Clinical Prognosis. *Int J Hematol Oncol Stem Cell Res* **11**, 328-339 (2017).
- 4 Pui, C. H., Relling, M. V. & Downing, J. R. Acute lymphoblastic leukemia. *N Engl J Med* **350**, 1535-1548, doi:10.1056/NEJMra023001 (2004).
- 5 Tsai, T. C., Huang, H. P., Chang, Y. C. & Wang, C. J. An anthocyanin-rich extract from Hibiscus sabdariffa linnaeus inhibits N-nitrosomethylurea-induced leukemia in rats. *J Agric Food Chem* **62**, 1572-1580, doi:10.1021/jf405235j (2014).
- 6 van Weelden, G. *et al.* Fucoidan Structure and Activity in Relation to Anti-Cancer Mechanisms. *Mar Drugs* **17**, doi:10.3390/md17010032 (2019).
- 7 El Amrousy, D., El-Afify, D., Khedr, R. &