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**Case Report-A learning from clinical experiential history**

# 세포교정영양요법(OCNT)을 이용한 유방암 환자 사례 연구

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# A Case Study on the Breast Cancer Patients Using Ortho-Cellular Nutrition Therapy (OCNT)

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**ABSTRACT**

**Objective:** Case report of improvement in joint pain and gum bleeding in a breast cancer patient using OCNT.

**Methods:** A Korean woman in her 60s was diagnosed with breast cancer. After being diagnosed with stage 2 breast cancer, her quality of life has greatly deteriorated due to the side effects of the drugs administered.

**Results:** Improved joint pain and bleeding gums after OCNT

**Conclusion:** The application of OCNT to patients with above problem can help improve symptoms.

**Keywords:** Ortho-Cellular Nutrition Therapy (OCNT), breast cancer, improved adverse drug reaction, arthralgia, gum bleeding

## Introduction

Breast cancer refers to any malignant tumor that develops in the lactiferous duct and lobules of the breast, and is a deadly disease in which abnormal tissue in the breast continues to grow or spreads to other organs. Breast tissue is made up of the mammary glands and the fat, connective tissue, and lymphatic vessels that support breast tissue. Breast cancer is more diverse than other cancers because it can occur anywhere in the breast tissue.[1,2]

According to the International Cancer Report 2020, breast cancer is known to be more prevalent in countries with higher income levels. Thus, South Korea has a high incidence of breast cancer.[1,3]

Of these, 70% are affected by hormones such as estrogen and progesterone and are referred to as hormone-positive breast cancer patients.[4] Patients with hormone-driven disease are prescribed hormone inhibitors for 5-10 years after diagnosis, which block the production of female sex hormones (aromatase

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inhibitors, luteinizing hormone-releasing hormone analogs) or inhibit their action (selective estrogen receptor modulators). Antihormonal therapy is considered the first-line treatment for hormone receptor-positive breast cancer because it can effectively treat breast cancer with fewer side effects than chemotherapeutic agents.[4,5]

Tamoxifen, the most widely used anti-estrogenic breast cancer drug, has been shown to be effective in preventing recurrent metastases.[5]

In fact, an NSABP-14 study conducted on 2,644 patients (a randomized, double-blind, placebo-controlled trial) showed that taking tamoxifen reduces recurrence and mortality in patients with early-stage breast cancer without lymph node metastases, compared to a 15-year recurrence rate of 46.3% without tamoxifen, the intake reduced it to 33.7%.[6]

Tamoxifen's shows pharmacologic activity dependent on conversion by CYP2D6 to its active metabolite, endoxifen. When tamoxifen is administered, it intentionally competes with estrogen to bind to the ER and replaces estrogen. Tamoxifen may also bind to calmodulin, a calcium-modulated protein that affects DNA synthesis and thus inhibits cell proliferation.[7]

With this pharmacologic mechanism, tamoxifen acts as a competitive substrate inhibitor of estrogen and may cause estrogen deficiency as a side effect. These side effects are very similar to menopausal symptoms in women.[7,8]

The most common symptoms are irregular menstrual patterns, hot flashes on the face and upper body, heart palpitations, dry vulva, painful urination, and osteoporosis, which can lead to arthritis and joint pain.[8]

Because of these side effects, 83% of patients prescribed tamoxifen in the first year took their prescribed medication, but after four years, only 50% took their medication. Globally, tamoxifen has a patient-led drug discontinuation rate of about 30-40%, meaning that people receive a prescription for the drug but discard it without taking it.[9]

If a patient stops taking the drug because of side effects, even if the treatment is highly effective, this can lead to another cancer recurrence.

In this case, the patient was diagnosed with stage 2 hormone-positive breast cancer (June 2015) and had been taking Femara (Retrozol) for over 4 years after taking Tamoxifen for 2 years. Femara is an aromatase inhibitor that is prescribed to postmenopausal hormone-positive breast cancer patients, which is known to increase the risk of osteoporosis.[10]

In this case, the patient complained of joint pain due to long-term antihormonal medication, and OCNT was implemented to reduce the pain and improve joint recovery, and we would like to report the results.

## Cases

### 1. Target

It targeted one patient with breast cancer.

1) Name: Yoo, O O (F/60 years old)

2) Diagnosis: Breast cancer

3) Date of Onset: June 2015

4) Treatment Period: March 2022 to September 2022 (Approximately 9 months)

5) Chief Complaint: Arthralgia

6) Past History: Breast cancer

7) Social History: None

8) Family History: None

9) Current Medical History: None

### 2. Method

To alleviate arthralgia,

Sulfoplex PK (333, three times a day, 3 tablets per dose)

Collaplex (101, twice a day, one sachet per dose)

were administered as an initial OCNT. The patient stopped taking Femara after noticing that the side effects of joint pain and bleeding gums were disappearing.
Cyaplex (101, twice a day, one sachet per dose)
Eufaplex (101, twice a day, one sachet per dose)
Tmplex (200, once a day, 2 sachets per dose)
Sulfoplex (303, twice a day, 3 tablets per dose)
Thyroplex (101, twice a day, one sachet per dose)
were administered. After the patient stopped taking female hormone inhibitors due to discontinuation of Femara and developed insomnia because of anxiety from fear of cancer recurrence, she resumed Femara with 15 days of
Viva C Cap. (101, twice a day, one tablet per dose)
Jubaplex (011, twice a day, one sachet per dose)
administration. After her insomnia improved, she stopped taking Femara. Simultaneously, to alleviate the iodine and vitamin D deficiencies seen in breast cancer patients,
Cyaplex (101, twice a day, one sachet per dose)
Eufaplex (101, twice a day, one sachet per dose)
Tmplex (100, once a day, one sachet per dose)
Sulfoplex (303, twice a day, 3 tablets per dose)
Thyroplex (101, twice a day, one sachet per dose)
Diverol Cap. (101, twice a day, one capsule per dose)
were administered.
After 3 months of maintenance, Diverol capsules were added, and the pain significantly improved. Afterward, the dose of Sulfoplex (202, twice a day, 2 sachets per dose)
was reduced and continued for 2 more months.

## Result

After the first round of OCNT, there was a significant improvement in arthritis compared to before. Arthralgia, especially in the back and shoulders, decreased significantly after about three months of taking the supplement, and additional symptoms such as bleeding gums and insomnia also improved significantly (**Table. 1**).

## Consideration

In this case, the patient developed arthralgia due to medication for breast cancer treatment, and OCNT therapy was performed to alleviate it.

To relieve arthralgia, we prescribed Sulfoplex PK tablets, which contain MSM, peony, licorice, hyssop, etc. to strengthen joints and magnesium glycine to stabilize nerves. We expected the formula to have effect on arthralgia.

Paeoniflorin and albiflorin, substances found in *Paeoniac radix*, are known to improve rheumatoid arthritis, etc. They inhibit the TRPV1 and Succinate/SUCNR1-HIF-1a/NLPR3 pathways to reduce

**Table 1. The indicator for the chief complaint was filled out by the patient herself.** The level of intensity worsens from 1 to it reaches 10.

| Symptoms | 1st<br>Mar. 2023 | 2nd<br>Apr. 2022 | 3rd<br>May 2022 | 4th<br>Jun. 2022 | 5th<br>Jul. 2022 or later | Remarks |
|---|---|---|---|---|---|---|
| **Arthralgia (Waist)** | 8 | 1 | 0 | 0 | 0 | |
| **Arthralgia (Sholder)** | 7 | 2 | 1 | 0 | 0 | |
| **Gum bleeding** | | 5 | 1 | 0 | 0 | |
| **Insomnia** | | | | 7 | 0 | |

pain, or inhibit the NF-kB signaling pathway in osteoclast differentiation to reduce collagen-induced arthritis or arthralgia.[11, 12]

Hyssop (*Achyranthes japonica*) is also known to be effective for arthralgia, especially by inhibiting matrix metalloproteinases (MMP), which have been linked to osteoporosis. In particular, the level of MMP-2, which breaks down collagen, and MMP-9, an important factor in the breakdown of collagen, gelatin, proteoglycans, and elastin, were found to be lower in hyssop-treated patients compared to controls.[13] These effects may help stabilize bone density, which in turn improves pain and inflammation in the joint. Since the drugs tamoxifen and Femara, which are used to treat breast cancer, have the side effect of osteoporosis, we believe that implementing OCNT will actually help improve arthralgia.

Besides, combination therapies such as Collaplex, which contains collagen, and Cyaplex, which contains anthocyanin extracted from aronia, were used to improve the side effects of breast cancer, as well as to improve actual cancer tissues through antioxidant effects, etc.

The Aronia extract exhibits antioxidant properties in plasma and platelets in healthy individuals as well as breast cancer patients, and when given to patients undergoing breast cancer treatment or post-operative chemotherapy, it has been shown to significantly reduce oxidative/nitrosative stress in platelets of breast cancer patients.[13]

Thus, it is conceivable that the OCNT currently being implemented may provide a pharmacologic mechanism to help improve the side effects of breast cancer medications as well as the disease itself.

However, since it is a single case and there are limitations in interpreting the results, it is difficult to apply it to all patients. However, it is thought to be a case that helped improve arthralgia symptoms by adjusting the appropriate concentration of OCNT according to the patient's condition and is reported with the patient's consent.

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