

## 세포교정영양요법(OCNT)을 이용한 중족골 골절 환자 사례 연구

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

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#### ABSTRACT

**Objective:** A case report of pain relief and fracture recovery by ortho-cellular nutrition therapy in a patient with 2nd, 3rd, and 4th metatarsal fractures (closed).

**Methods:** A Korean woman in her 50s was diagnosed with 2nd, 3rd, and 4th metatarsal fractures (closed) with severe initial pain and fractures. Surgery was recommended but could not be performed immediately due to her situations at work.

**Results:** With OCNT performed immediately after the fracture, the pain completely disappeared, and even during subsequent recovery, recovery was faster than in other fracture cases.

**Conclusion:** OCNT may help patients with similar problems relieve symptoms and recover.

**Keywords** Ortho-Cellular Nutrition Therapy (OCNT), metatarsal fractures, /

#### Introduction

The foot is made up of a total of 26 bones, including seven tarsal bones, five metatarsal bones,

and 14 tarsal bones. Foot fractures are one of the most common foot injuries, most frequently caused by fractures of the metatarsals and toes.<sup>1</sup> metatarsal fractures. A metatarsal fracture is a condition in which the metatarsal bone, which forms the sole, is broken. It is a common injury in athletes and the general public, such as a rupture of the cruciate ligament or Achilles tendon. It is mainly caused by direct damage caused by a heavy object falling and indirect damage caused by twisting the body while

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the toes are fixed. It is especially likely to occur when the top of the foot receives a strong impact, such as exercising vigorously or falling down the stairs.

A metatarsal fracture is numbered depending on which of the five bones is fractured. Metatarsal fractures 2 and 3 are the most common, and fractures 1 and 4 are relatively uncommon.<sup>2</sup> A metatarsal fracture is more likely to occur as a double fracture than an isolated fracture. In particular, the third metatarsal fractures are the most prone to injury, with a 63% chance of injuries with the second or fourth region and a 28% chance of both.<sup>3</sup>

A metatarsal fracture causes severe and immediate pain. Typical accompanying symptoms include:

1. Pain and tenderness: pain caused by swelling at the fracture site, muscle spasms, and damage to the periosteum;<sup>4</sup>
2. Impeded walking ability due to fractures;<sup>1</sup>

In hospitals, cold compress, such as ice packs, is an emergency treatment to relieve pain<sup>5</sup> and painkillers are prescribed. The fracture is first examined through X-ray. Depending on the doctor's opinion, surgery is required if the injury is severe. If the injury is not severe, a plaster cast is applied to the fracture area for recovery.

The patient in this case report was diagnosed with metatarsal fractures 2, 3, and 4 (closed), complained of extreme pain immediately after the fracture, and required emergency treatment. After going to the emergency room, she was advised to have surgery due to the severity of her fracture, but

due to her situations at work, surgery was not possible right away. She, therefore, underwent OCNT as an emergency measure, and her pain resolved within 6 hours despite the fracture being a misalignment of her bone. The patient has not complained of any pain since, and it is a rare case in which her bones have healed well without surgery. OCNT was performed as an emergency measure immediately after the fracture to prevent blood clots, remove free radicals that create inflammatory cells with a powerful antioxidant detoxifying agent, and quickly supply nutrients for bone creation and nerve tissue regeneration. As a result, the pain disappeared to the extent that painkillers were unnecessary. The patient recovered faster than other fracture cases during the subsequent recovery process and was declared fully cured in 10 weeks, as shown in this case report.

## **Case Details**

### **1. Subject**

One case of a patient with 2nd, 3rd, and 4th metatarsal fractures (closed) was studied.

- 1) Name: Kang O O (F/55 years old)
- 2) Diagnosis: 2nd, 3rd, 4th metatarsal fractures (closed)
- 3) Date of onset: September 12, 2022
- 4) Treatment period: September 12, 2022 - December 2022
- 5) Main complaints: Pain at the fracture site
- 6) Past history: None
- 7) Social history: None
- 8) Family history: None
- 9) Current medical history: None

### **2. Methods**

<Immediately after the fracture>

- Seven hours after the fracture, the patient was admitted to the emergency room, diagnosed with second and third metatarsal fractures (closed), and placed in a semi-cast.
- An injection of painkillers was recommended, but as there was no pain immediately after OCNT, no painkillers were prescribed.
- Same-day hospitalization and surgery were recommended, but the patient operated a one-person pharmacy and could not close her pharmacy. She was scheduled to undergo surgery in a week.

<One week after the fracture>

- One week after the fracture (Sunday), she went to the emergency room of a university hospital to undergo surgery. She was suspected of having a nerve problem because she had no pain at the site of her fracture.
- After three days, a CT scan was recommended. Since it was a unique case with no pain, the odds of surgery versus non-surgery were 50:50. Non-surgical treatment was decided, and she was discharged immediately.

<10th day after the fracture>

- On the 10th day after the fracture, the patient was treated by a podiatrist orthopedic professor. No nerve abnormalities were found on CT, and she was diagnosed with metatarsal fractures 2nd, 3rd, and 4th (closed). The doctor said she was an unusual case because, despite her serious injuries, she still had no pain. She wore a half cast and received medical treatment every month thereafter.

<OCNT for two weeks immediately after the fracture>

- Cyaplex F (222, three times a day, two packets each time)
- Cyaplex X (111, three times a day, one packet each time)
- Sulfoflex PK Tab. (555, three times a day, five tablets each time)
- Notoplex (202, twice a day, two packets each time)
- Angelica herbal granules 3g (111, three times a day, one packet each time, once immediately after the fracture)
- Collaplex (222, three times a day, two packets each time)
- Calmaplex (111, three times a day, one packet each time)
- Stemplex (111, three times a day, one packet each time)
- Magplex (202, twice a day, two packets each time)
- Three types of AQUA (Aqua SAC Pure, Heartberry Black, Cyaplex mineral bamboo salt) (once immediately after fracture)
- Sulfoflex cream (hourly after fracture)
- Cold compresses with the leg elevated above the chest
- The patient was in tremendous pain immediately after the fracture and took the above prescription while applying cold compresses. After taking the prescription product three times, the pain was relieved within 6 hours. The emergency room reviewed injections of painkillers, but the patient was not in pain, so no injections were administered, and the patient did not take any painkillers.

<Two weeks to three months after the fracture>

- Cyaplex F (202, twice a day, two packets each time)
  - Cyaplex X (111, three times a day, one packet each time)
  - Sulfoplex PK Tab. (555, three times a day, five tablets each time)
  - Notoplex (202, twice a day, two packets each time)
  - Collaplex (202, twice a day, two packets each time)
  - Calmaplex (111, three times a day, one packet each time)
  - Stemplex (111, three times a day, one packet each time)
  - Three types of AQUA (Aqua SAC Pure, Heartberry Black, Cyaplex mineral bamboo salt)
  - Sulfoplex cream (hourly after fracture)
- Calmaplex (111, three times a day, one packet each time)
  - Stemplex (111, three times a day, one packet each time)
  - Three types of AQUA (Aqua SAC Pure, Heartberry Black, Cyaplex mineral bamboo salt)
  - Sulfoplex cream (hourly after fracture)

OCNT continued as illustrated above.

### **Results**

Due to the severity of the fracture, the patient was recommended surgery, but surgery could not be performed immediately due to her situation at work. Surprisingly, she received the opinion that surgery was unnecessary at the university hospital she visited a week later. She also heard it was unusual for no pain compared to the extent of the fracture. As a result, a CT scan of the fracture area was performed, but there were no abnormal findings in the nervous system. Afterward, she underwent conservative treatment by splinting without surgery. She was diagnosed that the fractured bones recovered much faster than other fractures, and the bone was completely healed ten weeks after the fracture.

<Three to six months after the fracture>

- Cyaplex F (101, twice a day, one packet each time)
- Cyaplex X (101, twice a day, one packet each time)
- Sulfoplex PK Tab. (505, twice a day, five tablets each time)
- Notoplex (101, twice a day, one packet each time)
- Collaplex (111, three times a day, one packet each time)



**Fig. 1. Progress of the metatarsal fractures (closed) after OCNT. (A)-(C) Early photos of the fracture. (D)-(G) Time-lapse photos. (H) Photo after full recovery.**



**Fig. 2. X-ray results of the patient's metatarsal fractures (closed) before and after OCNT. As a result of the X-ray, fractures of the patient's 2nd and 3rd metatarsals were visible, and the 3rd and 4th metatarsals were misaligned.**

## **Discussion**

In this case report, the patient suffered tissue and bone damage from metatarsal fractures and experienced extreme pain immediately after the fracture. When a fracture occurs, our body immediately activates inflammation phases for healing. During this process, immune system cells move to the damaged area to remove damaged tissue, bone fragments, and blood leaking from damaged blood vessels. They release substances that attract more immune cells, causing redness, swelling, and tenderness around the fracture site.<sup>6</sup> This process peaks within a few days but may take several weeks to subside. If not relieved, the initial pain may cause other referred pains to persist, progressing to chronic pain. Thus, it is necessary to use medications such as painkillers to relieve the pain. Most painkillers used for fractures accompanied by more than moderate pain or inflammation can be administered only after visiting a hospital and receiving a doctor's prescription; in many emergency cases, they are not readily available after a fracture.

Immediately after the fracture and before visiting the hospital, OCNT was applied to the patient as an emergency measure for severe pain and rapid recovery. Sulfoplex PK Tab and Sulfoplex cream are plant-based MSM and have anti-oxidative stress and antioxidant abilities, effectively controlling inflammation/pain and improving tissue damage.<sup>7,8</sup> Notoplex and angelica granules were used as blood clot agents, which improve blood circulation by breaking through clots or clogged blood vessels and regenerating blood vessel walls.<sup>9</sup> In addition, Collaplex, Calmaplex, and Stemplex were applied to prevent bleeding and rapid regeneration of the

damaged tissues. Shark cartilage powder in Collaplex can help with inflammation by suppressing cellular and humoral immune responses.<sup>10</sup> Natural collagen helps in tissue regeneration,<sup>11</sup> and Stemplex is a horse/pork placenta preparation that generates stem cells and helps in the regeneration of new cells.<sup>12, 13</sup>

Cyaplex F, Cyaplex X, and three types of Aqua were applied for antioxidant detoxification of fractures and bruises, improvement of blood circulation, and anti-inflammation. Zinc and selenium help detoxification of oxidized cells and immune system function.<sup>14,15,16</sup> Anthocyanin, the most potent antioxidant among plant flavonoids, has been reported to have antioxidant and anti-inflammatory functions.<sup>17,18</sup> SAC calcium can help prevent and improve bone density and osteoporosis, and water containing various minerals can also help with hepatobiliary diseases, digestive diseases, cavities, anemia, and iron deficiency.<sup>19,20</sup>

Each natural substance may have increased the defense function against inflammation at the fracture site, and in particular, the application of substances that can aid recovery and regeneration may have helped relieve pain and facilitate the patient's recovery.

The patient in this case study had a fracture in which the bone was misaligned but experienced pain-free fracture healing with nutrients alone. Surprisingly, ortho-cellular nutrition therapy (OCNT) relieved pain by quickly resolving blood clots, edema, and granulocytes that cause pain at the fracture site. This case study discusses a single case and may not be universally applicable to all patients with metatarsal fractures. Nevertheless, this treatment appears to help improve the patient's

symptoms. The case study is reported with the patient's consent.

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