CellMed
Orthocellular Medicine and Pharmaceutical Association

Case Report

세포교정영양요법(OCNT)을 이용한 난임 개선 사례

박정미 약사
경기도 부천시 소사구 성주로 267 메디팜비타민약국

A Case Study of the Improvement of Infertility through Ortho-Cellular Nutrition Therapy (OCNT)

Pharmacist, Jung-mi Park
Medipharm Vitamin Pharmacy, 267, Seongju-ro, Sosa-gu, Bucheon-si, Gyeonggi-do, Republic of Korea

ABSTRACT

Objective: Infertility is defined as the inability to conceive after 12 months of unprotected sexual intercourse. It is a global health issue that affects both men and women and is classified as a significant disorder, causing considerable social burdens for many individuals experiencing infertility. There are several types of tests available to diagnose infertility, which assess the reproductive function of sperm and the ovulation cycle of eggs, helping partners attempt appropriate timing for conception.

Case Report: This case study was conducted on a Korean couple in their 40s experiencing infertility. The couple had been trying to conceive for one year after marriage but were unsuccessful, and they were advised to undergo in vitro fertilization (IVF) at an infertility clinic. The hospital's diagnosis revealed that the woman had a high uterine age, while the man had reduced sexual function, making pregnancy difficult. Therefore, to address their health conditions, Ortho-Cellular Nutrition Therapy (OCNT) was prescribed, incorporating folic acid, omega-3 fatty acids, coenzyme Q10, *Ginkgo biloba* extract, vitamin K, probiotics, zinc and arginine to improve infertility. After approximately 1 month of OCNT, the patient was clinically confirmed to be pregnant at 10 weeks of age.

Conclusion: This case demonstrated that prescribing OCNT tailored to the patient's condition may contribute to the improvement of infertility. However, this case study is based on single case of the improvement of the patients' individual situation, and further research is needed before it can be generalized to other infertile couples.

Keywords Ortho-Cellular Nutrition Therapy (OCNT), Infertility, Ovulatory dysfunction, Sperm abnormalities

Introduction

Infertility is defined as the inability to conceive after 12 months of unprotected sexual intercourse.[1] Infertility is a global health issue that affects both men and women and is classified as the fifth most important disability. Those experiencing or affected by infertility are significantly impacted mentally and face considerable social burdens. The prevalence of infertility varies depending on race, country, region, and gender. According to population-based meta-analyses, infertility rates are up to 16.7% in developed countries and 9.3% in developing countries. Additionally, the primary infertility prevalence due to male factors has been reported to be higher than that of female factors.[2]

Eighty-five percent of infertility causes are identifiable, while 15% remain unknown. Common causes include female ovulatory disorders, male infertility, and fallopian tube diseases. Additionally, lifestyle factors such as smoking and obesity, along with environmental factors like the working environment, can negatively affect reproductive health. Ovulatory disorders have a significant impact on infertility diagnosis, with 70% of women who do not ovulate being diagnosed with polycystic ovary syndrome (PCOS).[3]

According to the guidelines of the American Society for Reproductive Medicine (ASRM), the standard infertility evaluation includes semen analysis, ovulatory function assessment, hysterosalpingography, ovarian reserve testing, and laparoscopy. If all of these tests return the expected results, the diagnosis is made as unexplained infertility.[4]

*Correspondence: Jung-mi Park
E-mail: lemon220@hanmail.net
Received Mar 28, 2025; **Revised** Mar 28, 2025; **Accepted** Mar 31, 2025; **Published** Mar 31, 2025
doi: http://dx.doi.org/10.5667/CellMed.spc.119

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

Male infertility testing includes medical history assessment, physical examination, and semen analysis. The elements checked during the medical history assessment include experiences of childbearing, history of cryptorchidism, sexual dysfunction, and the use of medications, alcohol, or tobacco. During the physical examination, inquiries are made about varicocele and the absence of the vas deferens. Semen analysis is the process of distinguishing whether a male's sperm is normal or abnormal. If the sperm count, morphology, or motility falls outside the normal range, fertility is considered impaired.[5]

The most common female infertility factor is ovulatory dysfunction, which can manifest as irregular menstrual cycles. It is essential to identify the cause in women experiencing menstrual irregularities, with common underlying conditions including polycystic ovary syndrome, thyroid disorders, hyperprolactinemia, and weight changes. Additionally, the most accurate indicator of a regular menstrual cycle is ovulation. Ovulation can be confirmed through ovulation predictor kits or by measuring serum progesterone levels. Ovulation predictor kits, which test for luteal hormone in urine, are useful for women with long menstrual cycles and help couples trying to conceive to attempt intercourse at the optimal time.[6]

This case study reports the difficulties faced by a couple experiencing infertility. The couple had been trying to conceive for a year after marriage but were unsuccessful and visited an infertility clinic where in vitro fertilization (IVF) was suggested. As a result, Ortho-Cellular Nutrition Therapy (OCNT) was utilized to improve infertility, and significant results were observed. Accordingly, this case study is reported with the patient's consent.

Case Study

1. Subjects

This study was conducted on two infertility patients.

- Patient A
1) Name: Kim OO (40 years old / F)
2) Diagnosis: Infertility
3) Date of onset: May 20, 2023
4) Treatment period: November 20, 2024 – December 24, 2024
5) Chief complaints: Infertility, chronic headache, dysmenorrhea, lower limb edema
6) Medical history: Chronic headache, dysmenorrhea
7) Social history: Sedentary lifestyle due to office work
8) Family history: Mother with hypertension and hyperlipidemia
9) Current illness and medications: None

- Patient B
1) Name: OO (40 years old / M)
2) Diagnosis: Infertility
3) Date of onset: May 20, 2023
4) Treatment period: November 20, 2024 – December 24, 2024
5) Chief complaints: Infertility, atopy, chronic fatigue, lethargy, sexual dysfunction
6) Medical history: None
7) Social history: Smoking
8) Family history: None
9) Current illness and medications: None

2. Method

- Patient A
Hemoplex Capsule (202, twice a day, two capsules per dose)
Vivarol Capsule (002, once a day, two capsules per dose)
Viva Q10 F Capsule (100, once a day, one capsule per dose)
Viva Circu Capsule (001, once a day, one capsule per dose)
Diverol F Capsule (100, once a day, one capsule per dose)
Epibiome F Power (001, once a day, one sachet per dose)

- Patient B
Hemoplex Capsule (202, twice a day, two capsules per dose)
Vivarol Capsule (001, once a day, one capsule per dose)
Viva Q10 F Capsule (100, once a day, one capsule per dose)
Viva Circu Capsule (001, once a day, one capsule per dose)
Diverol F Capsule (100, once a day, one capsule per dose)
Zincplex Capsule (202, twice a day, two capsules per dose)
Viva immune F Capsule (100, once a day, one capsule)
NO booster Capsule (202, twice a day, two capsules per dose)
Viva Man Up Capsule (202, twice a day, two capsules per dose)

The OCNT was carried out for approximately one month.

Results

The two patients in this case study are a married couple struggling with infertility. Despite trying to conceive for a year after marriage, they were unable to get pregnant. After several unsuccessful attempts, they visited an infertility specialist and were diagnosed. Patient A was found to have a uterine age of 40 years, while Patient B was diagnosed with a high proportion of malformed sperm (2/3 of total sperm), making conception unlikely. As a result, the specialists recommended in vitro fertilization (IVF). However, the couple opted not to undergo the procedure and instead began Ortho-Cellular Nutrition Therapy (OCNT) on November 20, 2024. After about one month of consistent OCNT use, pregnancy was confirmed on December 24, 2024.

Discussion

The patients in this case study, Patient A and Patient B, are a 40-year-old Korean couple experiencing infertility. After marriage, they attempted to conceive but were unable to do so. Patient A experienced lower limb edema because of poor blood circulation due to a sedentary lifestyle from her office job. She also reported a feeling of fatigue, a brain fog, and difficulty concentrating at work. Moreover, she underwent poor sleep quality, which led to lethargy, headaches, and menstrual pain. Patient B had severe atopic symptoms since childhood and more recently developed sexual dysfunction, chronic fatigue, and lethargy. Additionally, it was confirmed that he was a smoker.

The two patients had planned for pregnancy later in life and were diagnosed with issues related to sexual function. Therefore, OCNT aimed to improve their blood circulation and overall health. The prescription was designed to influence various hormones and reproductive cells related to pregnancy, aiming to enhance sexual function.

When pregnant, it is essential to consume various nutrients to support the development of the embryo and fetus and prevent deficiencies. One of the most critical nutrients is folic

acid (vitamin B9), which plays a key role in the synthesis of nucleic acids in the embryo and affects red blood cell production. A deficiency in folic acid during pregnancy can impair the growth of the fetus or placenta cells and may lead to genetic defects. Additionally, it can cause neural tube defects, early placental detachment, or shorten the duration of the pregnancy.[7] On the other hand, adequate folic acid intake has a positive effect on preventing neural tube. According to one study, when 1,800 pregnant women took folic acid, 72% of their fetuses showed no signs of neural tube defects. Additionally, folic acid can help reduce the risk of various pregnancy complications and positively influence the activation of fetal cell metabolism.[8] In particular, for the mother, folic acid helps prevent anemia during pregnancy. When supplemented with iron, it reduces the risk of anemia and iron deficiency anemia, commonly occurring in the later stages of pregnancy.[9] Therefore, providing folic acid and iron through Hemoplex was intended to positively impact the cellular development and health of both the mother and the fetus, creating a favorable physical environment for Patient A to conceive.

When a woman becomes pregnant, providing nutrients to the fetus can deplete the mother's own nutrient reserves. This is especially true for polyunsaturated fatty acids, which are challenging for the fetus to synthesize. As a result, the supply of fatty acids from the mother becomes crucial. Consequently, the proportion of docosahexaenoic acid (DHA), a type of polyunsaturated fatty acid, decreases in the mother's serum, making it essential to supplement DHA during pregnancy.[10] Meanwhile, research has shown that supplementing eicosapentaenoic acid (EPA) along with DHA during pregnancy has beneficial effects on fetal brain development, including improvements in memory, attention, language development, and visual development. Additionally, supplementation of DHA and EPA during pregnancy has been examined to improve postpartum depression in mothers, prevent cardiovascular diseases, and provide anti-inflammatory effects, contributing to the overall health of the mother.[11] These ingredients are included in Vivarol's main component, omega-3 fatty acids, and it is believed that the intake of DHA and EPA contributed to improving the health of both Patient A and the fetus.

The embryo is formed when the egg and sperm fertilize, and this process is influenced by the activity of the germ cells and the stability of the fertilized egg cells. For germ cells to function properly, they need an energy supply, which is provided by the mitochondria through the glycolysis process in the cells before embryo implantation, generating ATP. Coenzyme Q10 is an antioxidant that helps protect the synthesis of ATP in the mitochondria, reducing the peroxidation of circulating lipoproteins. Several studies have shown that Coenzyme Q10 exerts antioxidant effects, reducing oxidative stress in egg cells and impacting embryo development.[12] Coenzyme Q10 also has a positive effect on sperm cells. One study showed that supplementing with Coenzyme Q10 increased sperm motility and improved fertilization rates during in vitro fertilization (IVF).[13] These studies confirm that Coenzyme Q10 is crucial in germ cell and embryo development. By including Coenzyme Q10 in Viva Q10 F, the aim was to support the stability of germ cells and provide antioxidant effects.

The intake of *Ginkgo biloba* extract has a positive effect on cognitive disorders, depression, liver and kidney damage, and vascular diseases. Additionally, *Ginkgo biloba* extract improves blood circulation by increasing blood flow in the carotid arteries and enhancing vascular dilation ability.[14] Patient A, due to the nature of her office job, has to remain seated for extended periods, leading to lower limb edema. To help improve lower limb edema and support venous circulation, Viva Circu was prescribed, which contains the ingredients mentioned above.

Diverol F contains vitamins D, E, and K. Vitamin D is synthesized in the body through sunlight and plays a key role in calcium synthesis. During pregnancy, a deficiency in vitamin D can hinder fetal growth and bone development. Therefore, when it is difficult to produce sufficient vitamin D from sunlight, supplementation can help prevent deficiency and support the fetus's calcium processing.[15] Vitamin K plays a crucial role in blood clotting when bleeding occurs and also contributes to bone metabolism. It influences the metabolism of proteins involved in bone tissue formation, and a deficiency in vitamin K can lead to decreased bone mineral density or an increased risk of fractures.[16] This can be a critical issue for pregnant women, as the nutrients transferred to the fetus may make the mother more susceptible to vitamin deficiencies. Therefore, through Diverol F, the aim was to ensure adequate intake of vitamins D and K to support calcium synthesis and improve bone metabolism.

During pregnancy, a mother's gut function and bacterial composition can change as part of a natural metabolic process that prevents the immune system from attacking the fetus. As a result, changes in the maternal gut microbiome can lead to a weakened immune response, which may affect the mother's overall health. Therefore, careful management is required to maintain the mother's health during this period.[17] Therefore, Epibiome F was prescribed to improve the gut environment. Epibiome contains *Clostridium butyricum* MIYAIRI and *Bifidobacterium*, which provide beneficial effects in the gastrointestinal tract. *Clostridium butyricum* MIYAIRI, an anaerobic bacterium discovered in Japan, is a probiotic that can help alleviate diarrhea. This bacterium produces spores, making it resistant to antimicrobial agents and gastric acid. It also increases the production of butyrate, promoting the growth of beneficial bacteria and positively impacting the gut microbiome.[18] Additionally, increasing the production of *Bifidobacterium* stabilizes the gut environment, helps reduce the risk of infections, and protects against external microorganisms, thus maintaining gut homeostasis.[19] Therefore, it is believed that Epibiome F positively improved Patient A's gut environment and enhanced her immune function.

Zinc has a positive effect on sperm production. A study involving animals injected with hCG hormones to observe sperm production showed that the zinc concentration in the testes increased and was primarily accumulated in the mitochondria of spermatocytes. Additionally, when zinc was injected into sperm samples with reduced motility, sperm motility was restored, and meiosis became more active. Zincplex and Viva Man Up are both rich in zinc. These were prescribed to improve Patient B's reproductive cells and function.[20] Additionally, Viva Immune F, which contains zinc and various essential minerals, was prescribed to improve Patient B's existing atopic dermatitis. Several studies have confirmed that atopic dermatitis worsens and increases skin inflammation when vital nutrients such as zinc and selenium are deficient.[21] Therefore, various minerals were prescribed to

maintain immune function and improve the existing skin condition.

Arginine, as a precursor of nitric oxide (NO), deactivates free radicals. This metabolic action of arginine has been shown to reduce peroxide activity. Sperm are vulnerable to lipid peroxidation in the cell membrane, and when the sperm membrane is damaged, functional impairment occurs. The intake of arginine is known to increase sperm motility and provide protective effects.[22] Therefore, NO Booster, which is rich in this component, was prescribed to improve the reproductive function of Patient B, who is experiencing sexual dysfunction.

The case study presents the story of a Korean couple in their 40s who struggled with infertility due to delayed pregnancy plans and reduced sexual function. Both Patient A and Patient B had a very low chance of conception due to diminished reproductive function. Therefore, OCNT was prescribed to improve their health and reproductive function. The couple consistently took the prescribed nutrients for one month and reported that they became pregnant shortly afterward. However, the findings may not apply to all infertile couples, and further research will be needed to generalize the results. Nevertheless, the short-term OCNT treatment showed significant changes in the patients and presumably helped improve their quality of life. This report is made with the patients' consent.

References

1. Brugo-Olmedo S, Chillik C, Kopelman S. Definition and causes of infertility. *Reproductive biomedicine online*. 2001;2(1):173-185.
2. Borumandnia N, Alavi Majd H, Khadembashi N, Alaii H. Worldwide trend analysis of primary and secondary infertility rates over past decades: A cross-sectional study. *Int J Reprod Biomed*. Jan 2022;20(1):37-46.
3. Carson SA, Kallen AN. Diagnosis and management of infertility: a review. *Jama*. 2021;326(1):65-76.
4. Optimal evaluation of the infertile female. *Fertil Steril*. Nov 2006;86(5 Suppl 1):S264-7.
5. Quaas A, Dokras A. Diagnosis and treatment of unexplained infertility. *Rev Obstet Gynecol*. Spring 2008;1(2):69-76.
6. Coutifaris C, Myers ER, Guzick DS, et al. Histological dating of timed endometrial biopsy tissue is not related to fertility status. *Fertil Steril*. Nov 2004;82(5):1264-72.
7. Scholl TO, Johnson WG. Folic acid: influence on the outcome of pregnancy. *The American journal of clinical nutrition*. 2000;71(5):1295S-1303S.
8. Argyridis S. Folic acid in pregnancy. *Obstetrics, gynaecology & reproductive medicine*. 2019;29(4):118-120.
9. Yakoob MY, Bhutta ZA. Effect of routine iron supplementation with or without folic acid on anemia during pregnancy. *BMC Public Health*. Apr 13 2011;11 Suppl 3(Suppl 3):S21.
10. Larqué E, Gil-Sánchez A, Prieto-Sánchez MT, Koletzko B. Omega 3 fatty acids, gestation and pregnancy outcomes. *British Journal of Nutrition*. 2012;107(S2):S77-S84.
11. Amza M, Haj Hamoud B, Sima R-M, et al. Docosahexaenoic Acid (DHA) and Eicosapentaenoic Acid (EPA)—Should They Be Mandatory Supplements in Pregnancy? *Biomedicines*. 2024;12(7):1471.
12. Khamadyanova A, Mannanov R, Smakova D, et al. Coenzyme Q10 and embryonic development: A potential role in reproductive medicine. *Obstetrics, Gynecology and Reproduction*. 2024;18(5):720-734.
13. Lewin A, Lavon H. The effect of coenzyme Q10 on sperm motility and function. *Mol Aspects Med*. 1997;18 Suppl:S213-9.
14. Wu Y, Li S, Cui W, Zu X, Du J, Wang F. Ginkgo biloba extract improves coronary blood flow in healthy elderly adults: role of endothelium-dependent vasodilation. *Phytomedicine*. Mar 2008;15(3):164-9.
15. Specker B. Vitamin D requirements during pregnancy. *The American journal of clinical nutrition*. 2004;80(6):1740S-1747S.
16. Bügel S. Vitamin K and bone health. *Proc Nutr Soc*. Nov 2003;62(4):839-43.
17. Edwards SM, Cunningham SA, Dunlop AL, Corwin EJ. The maternal gut microbiome during pregnancy. *MCN: The American Journal of Maternal/Child Nursing*. 2017;42(6):310-317.
18. Hagihara M, Yamashita R, Matsumoto A, et al. The impact of Clostridium butyricum MIYAIRI 588 on the murine gut microbiome and colonic tissue. *Anaerobe*. 2018;54:8-18.
19. Martin AJM, Serebrinsky-Duek K, Riquelme E, Saa PA, Garrido D. Microbial interactions and the homeostasis of the gut microbiome: the role of Bifidobacterium. *Microbiome Res Rep*. 2023;2(3):17.
20. Yamaguchi S, Miura C, Kikuchi K, et al. Zinc is an essential trace element for spermatogenesis. *Proceedings of the National Academy of Sciences*. 2009;106(26):10859-10864.
21. Vaughn AR, Foolad N, Maarouf M, Tran KA, Shi VY. Micronutrients in Atopic Dermatitis: A Systematic Review. *J Altern Complement Med*. Jun 2019;25(6):567-577.
22. Srivastava S, Desai P, Coutinho E, Govil G. Mechanism of action of L-arginine on the vitality of spermatozoa is primarily through increased biosynthesis of nitric oxide. *Biol Reprod*. May 2006;74(5):954-8.