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Case Report

세포교정영양요법(OCNT)을 이용한 제왕절개 분만 후 헤모글로빈 수치 개선 사례

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A Case of Hemoglobin Level Improvement Following Cesarean Delivery Using Ortho-Cellular Nutrition Therapy (OCNT)

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ABSTRACT

Objective: During pregnancy, women experience various physiological changes, including an increase in plasma volume of up to 50%. Iron is essential for hemoglobin synthesis and oxygen delivery, and additional iron supplementation is required throughout pregnancy. Persistent iron deficiency increases the risk of gestational anemia and may lead to severe anemia because of considerable blood loss during delivery, particularly cesarean delivery. Blood transfusion for anemia management requires careful consideration because of concerns about adverse effects such as infection, and various alternative approaches, including iron repletion prior to delivery, have gained increasing attention.

Case Report: This case report describes a Korean woman in her 30s who was found to have a hemoglobin level below the normal range on laboratory evaluation performed after cesarean delivery. The patient received Ortho-Cellular Nutrition Therapy (OCNT) using iron, folic acid, and vitamin B12. Repeat testing conducted approximately two weeks after the initial evaluation confirmed that her hemoglobin level had returned to the normal range.

Conclusion: Given that this case was based on a single patient, there are limitations in applying the same OCNT regimen to other patients presenting with comparable clinical conditions and symptoms. Nonetheless, appropriately prescribed OCNT may be beneficial in maintaining and improving iron levels in pregnant women, as well as in supporting their overall health.

Keywords Ortho-Cellular Nutrition Therapy (OCNT), Hemoglobin level, Hemoglobin, Postpartum hemorrhage, Iron

Introduction

During pregnancy, women undergo a variety of anatomical and physiological changes to support fetal development and delivery. These include changes in overall bodily function and metabolism involving the respiratory, digestive, cardiovascular, endocrine, and hematopoietic systems. In particular, because sufficient oxygen and nutrients must be supplied to the fetus through the bloodstream, maternal blood volume, especially plasma volume, increases by up to 50%. This leads to a marked rise in iron demand, as iron is required both for the production of red blood cells that transport oxygen and for direct supply to the fetus.[1,2]

Iron is an essential component of heme proteins, including hemoglobin, myoglobin, and cytochromes, as well as various enzymes. It is widely recognized as indispensable for broad cellular functions, including oxygen transport, ATP synthesis, and regulation of gene expression. In pregnant women, body iron tends to be distributed between the mother and the fetus, and at least approximately 1 g of additional iron is required throughout pregnancy. As a result, pregnant women are at an ongoing risk of developing iron deficiency.[3]

From mild deficiency onward, iron is preferentially directed to the fetus, whereas from moderate deficiency onward, iron-deficient states become apparent in both the pregnant woman and the fetus. If this condition persists, the pregnant woman may

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develop symptoms of gestational anemia, and the fetus may be affected during the early stages of postnatal growth.[3] urthermore, hemorrhage occurs during delivery regardless of the mode of delivery, and if anemia is already present before delivery, there is a risk that postpartum anemia may progress to a severe form. This risk is particularly elevated in women who undergo cesarean delivery because the volume of blood loss is considerably greater.[4]

Blood transfusion may therefore be applied to treat such anemic symptoms. However, the decision to transfuse should not be made on the basis of iron deficiency alone, and clinical signs such as overall hemorrhagic risk and reduced cardiac function should also be considered. In addition, caution is required given the potential for adverse effects, including transmission of infectious agents, acute lung injury, and immune dysregulation. Accordingly, alternative approaches that correct anemia preemptively have drawn increasing attention, including intravenous iron administration and correction of anemia through sufficient iron intake prior to delivery.[5]

This case report concerns a woman in her 30s who was diagnosed with reduced postpartum hemoglobin levels. Ortho-Cellular Nutrition Therapy (OCNT) was administered to the patient, and an improvement in hemoglobin levels was subsequently confirmed. This case is therefore reported with the patient's consent.

Case Study

1. Subject
A single case of confirmed postpartum hemoglobin decline was included.

1) Name: Park OO (33 years old/F)
2) Diagnosis: Reduced hemoglobin level
3) Date of onset: November 1, 2026
4) Treatment period: November 1, 2025 – November 17, 2025
5) Chief complaint: Hemoglobin level decline confirmed on blood testing performed after cesarean delivery
6) Past medical history: None
7) Social history: None
8) Family history: None
9) Current medications and medical conditions: None

2. Methods
The patient had been continuously receiving OCNT prior to pregnancy, with dosage and timing adjusted flexibly according to the following periods.

- During pregnancy: Hemoplex Capsule 200 (once daily, 2 capsules per dose)
- One month before delivery through immediately before delivery (October 2025): Hemoplex Capsule 202 (twice daily, 2 capsules per dose)
- After delivery (treatment period): Hemoplex Capsule 302 (twice daily, 3 capsules in the morning and 2 capsules in the evening)

Results

The patient underwent cesarean delivery, and laboratory testing on postpartum day 3 revealed that her hemoglobin level had declined to 9.1 g/dL. This value was below the normal reference threshold of 11.0 g/dL for pregnant women. However, follow-up testing performed 16 days after the initiation of OCNT showed a hemoglobin level of 11.9 g/dL, indicating a return to the normal range.

Discussion

The patient was a Korean woman in her 30s who was pregnant at the time of presentation. She was diagnosed with iron deficiency during pregnancy and began taking Hemoplex, an OCNT product containing water-soluble heme iron. Approximately one month before her expected date of delivery, her OCNT dosage was increased in preparation for blood loss and a decline in hemoglobin levels associated with delivery. However, blood testing conducted after cesarean delivery revealed a hemoglobin level below the normal range. Accordingly, emergency blood transfusion was considered on the advice of the attending physician.

When transfusion is not administered during delivery, cesarean delivery is known to be associated with greater blood loss than vaginal delivery. Consequently, the proportion of cases requiring emergency transfusion during delivery is also higher in cesarean delivery.[6] The attending physician accordingly proposed emergency transfusion. However, given that the patient's general condition was satisfactory despite her relatively low hemoglobin level, and that her hemoglobin level had been well maintained throughout pregnancy after the diagnosis of iron deficiency relative to that of other pregnant women, the attending physician instead directed an increase in the dosage of the iron supplement she was currently taking.

Iron is a biologically essential element involved in a wide range of metabolic processes, including oxygen transport, DNA synthesis, and cell proliferation. For pregnant women in particular, it is required to support endometrial maturation for successful implantation, fetal growth and development, overall maternal health, and breastfeeding following delivery.[77]

The iron contained in Hemoplex is in the form of heme iron. Heme iron is abundant in animal-derived foods such as meat, fish, and poultry, and is recognized to have a higher absorption rate than non-heme iron found in certain plant sources or synthetic iron preparations. This property plays a considerable role in enhancing the bioavailability of iron in the body and may exert a more pronounced effect on key iron parameters, including ferritin, which is known as an iron storage protein.[8] Ferritin is a protein that maintains iron homeostasis by storing iron and releasing it as needed. Taken together, the sustained intake of Hemoplex is considered to have contributed to the maintenance of the patient's iron levels and overall condition.

In addition to iron, Hemoplex contains folic acid, also known as vitamin B9, and vitamin B12. These two nutrients are present in animal tissues and play important roles in cell growth and erythropoiesis. Specifically, folic acid and vitamin B12 support DNA synthesis, cell proliferation, and cell differentiation, thereby contributing to red blood cell production. Iron is utilized in the synthesis of hemoglobin, which transports oxygen in red blood cells, and is thus involved in the overall process of erythropoiesis. Accordingly, as with iron, insufficient levels of these nutrients in the body may lead to anemia resulting from inadequate red blood cell production.[9]

Following the OCNT described above, the patient exhibited an overall satisfactory physical condition despite the reduction in hemoglobin levels after cesarean delivery, and her general condition was favorable both before and after delivery. This is thought to be attributable to her regular consumption of hospital-provided meals during hospitalization, sustained iron supplement intake throughout pregnancy, and appropriate OCNT, all of which are considered to have facilitated the restoration of hemoglobin levels within a relatively short period. However, as this case was limited to a single patient, there are limitations in applying the same OCNT regimen to other patients presenting with reduced hemoglobin levels following the same mode of delivery. Nonetheless, the successful improvement of a condition that could affect the patient's physical condition within a short period through OCNT is considered clinically meaningful, and this case is reported with the patient's consent.

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