## Research Article

# Decreased Hemoglobin Following Placental Abruption in a 32-Week Pregnant Woman: A case report

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**Abstract:**

**Background**: Placental abruption is a major cause of bleeding during pregnancy, the etiology of which is not well understood, but factors such as multipartite and premature rupture of membranes are involved. Decomposition is usually accompanied by severe bleeding from the mother, which causes the placenta to stop bleeding and is considered a midwifery emergency that if the delivery is not done quickly, the fetus will definitely die.

**Case Presentation**: A 26-year-old woman, gravida 7, para 6 L5D1 was 32 weeks gestational with complaints of severe bleeding, decreased level of consciousness (GCS: 7/15), severe abdominal tenderness, severe hypotension of the uterus, no Fetal heart rate and vital signs blood pressure of 80/50 mm/Hg, respiratory rate of 9, heart rate of 130 bpm referred to a clinic and then was sent to the hospital with suspicion. Immediately after admission, she was transferred to the operating room, intubated and connected to a ventilator. For emergency cesarean section, tests were sent to her. The infant was born with fetal dead and Hemoglobin = 2.9. 2 after delivery with Hemoglobin = 5.8 and 2 days after delivery with Hemoglobin = 8.9. The hospital was discharged.

**Conclusions**: Due to the dangerous maternal and fetal complications of placental abruption during pregnancy, it is recommended that one of the differential diagnoses of hemoglobin decline during pregnancy be placental abruption.

**Keywords**: placental abruption, Postpartum hemorrhage, decreased hemoglobin levels

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**Background:**

One of the most dangerous complications of pregnancy is bleeding in the third trimester and one of the most important causes of bleeding is placental abruption. Placental abruption is the separation of the placenta from its junction before labor begins, complicating part of the pregnancy, and leading to major complications for both mother and fetus (1). Placental abruption is an obstetric emergency that can endanger the life of the fetus and mother and often unpredictable and indicates a sudden onset (2). PA occurs due to premature placental abruption. Desidual hematoma cuts the base of the mother-fetus blood circulation and quickly leads to hemodynamic disorders, coagulation abnormalities and acute fetal distress. This is an invasive pathology of the last months of pregnancy and childbirth (3).

Its prevalence during pregnancy was 0.4 -1%. It is responsible for 5% to 10% of perinatal mortality and morbidity, and about 10% of cases with neurological disorders (4). PA is also found in 5.1% of premature deliveries (5). Some risks factors, such as maternal age (<20 or >35 years); large multiparty; thrombophilia; consumption of tobacco; alcohol; and cocaine; in vitro fertilization (IVF); multiple pregnancies and vascular disorders; and premature birth or abnormalities of amniotic fluid, have been identified (6,2).

PA is responsible for black blood metrorrhagia, sudden and severe abdominal pain, uterine contractions, and sometimes fetal death. High blood pressure and proteinuria are usually indicated by the mother. However, these symptoms occur in only one-third of cases. Fetal heart rate abnormalities are present in 70% of cases of PA (7).

McNamara et al. in 2015, Reported the prevalence of placental abruption at 15 deliveries per 1,000 deliveries, and said the association between previous cesarean section and placental abruption was significant. In these mothers, there are 56.3% of preterm infants and 65% of their infants weigh less than 2500 g (8).

According to the study of Li et al. in 2019 on 62 cases of placental abruption that were divided into case and control groups, the prevalence of preeclampsia and duration (between the set of clinical symptoms and placental delivery) in the observation group were significantly higher than the control group. Which indicates statistical significance .Clinical signs of placental abruption include abdominal pain (68%) and bleeding (35%). Diagnosis is made using imaging techniques and clinical examination during delivery. Definitive treatment of placental abruption is emergency cesarean section, which is largely Prevents damage to the fetus (9).

This case report is intended to consider placental abruption as one of the differential diagnoses of hemoglobin loss during pregnancy that should be considered.

**Case Description:**

A 26-year-old woman, gravida 7, para 6 L5D1 was 32 weeks gestational with complaints of severe bleeding, decreased level of consciousness (GCS: 7/15), severe abdominal tenderness, severe hypotension of the uterus, no Fetal heart rate and vital signs blood pressure of 80/50 mm/Hg, respiratory rate of 9, heart rate of = 130 bpm referred to a clinic and then was sent to the hospital with suspicion**.**

The client was transferred to the operating room immediately after admission and intubated and connected to a ventilator with SIMV / VCV mode. An emergency cesarean section was prepared and complete tests were sent to her. According to the order, 2 units packed cell, one unit cross-matched Pack cell, 4 unit’s fresh frozen plasma and 10 unite Placket were requested. Foley catheter was inserted but had no urinary output. Fetus were fetal dead and maternal Hemoglobin was 2.9. 4 units fresh frozen plasma and one unit cross-matched Pack cell were injected for the patient.



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Vital signs one hour after delivery included BP = 60.90, PR = 102.

The patient was transferred to recovery. No vaginal bleeding. The patient was transferred to the ICU, sulfate therapy was started, and her level of consciousness and reflexes were constantly monitored. 2-unit packed red blood cells, 6-unit fresh frozen plasma, 4- vial albumin and 1-vial sodium bicarbonate were infused for her. About 6 hours after receiving blood products in ICU ward, blood pressure of 140/80, hemoglobin = 5.8. Bleeding was controlled in terms of bleeding, which was stopped according to the corrective measures taken, and the patient was in ideal condition in terms of level of consciousness and reflexes.

Two days later, she was transferred to the gynecology ward with hemoglobin = 5.8 and was injected with 2-unit packed red blood cells, 4 -unit fresh frozen plasma and 3 vial albumin and underwent supportive and therapeutic care.

One week after delivery and receiving the prescribed blood products with hemoglobin = 8.3, she was discharged from the hospital. This report was prepared with the written permission of the patient and the patient's companion.

**Discussion:**

One of the most dangerous complications of pregnancy is bleeding in the third trimester. Risk factors for postpartum hemorrhage include uterine atony (70%), placental retention and abnormal placenta formation (20%), trauma during labor and delivery (5%), and coagulation disorders (less than 1%) And placenta abrasion (4%). Predisposing factors include preeclampsia, premature rupture of membranes, smoking, and uterine fibroids (10).

Placental abruption is one of the most commonly known causes of fetal mortality, and in cases with delayed treatment, even maternal health is compromised. Among the complications that may occur in the mother if not treated in time; decreased hemoglobin. Severe postpartum hemorrhage with complications such as: severe anemia, complications of blood transfusion, acquired coagulation defect, Sheehan syndrome, hysterectomy, myocardial infarction, Asherman syndrome, sepsis and wound infection, pneumonia, venous thrombosis, renal embolism, embolism Accompanied (11). In the study of Sohrabi et al. (2011), one of the risky causes of preterm delivery was placental abruption (2.25%) followed by severe bleeding (12) . In another study, it was stated that one of the maternal complications in twin births due to assisted reproductive techniques compared to spontaneous twins; Increased prevalence of abruption and increased maternal bleeding (13). In a study by Ashori et al. (11), they concluded that with a decrease in hemoglobin following postpartum hemorrhage, the rate of postpartum hemorrhage increases (11).

The client presented the present report with a complaint of severe bleeding, decreased level of consciousness (GCS: 15.7), and lack of FHR hearing. In the blood test, the patient had a hemoglobin of 2.8 and he was suspected of having decolonization. Immediately after admission, the client was transferred to the operating room and intubated and connected to a ventilator, and her baby was born by FD by cesarean section. 2 field PC, 4 FFP units and 1 cross-matched PC unit were injected for the patient and finally he was transferred to the gynecology ward with hemoglobin 5.8 and finally he was discharged with hemoglobin 8.3 days later.

**Conclusion:**

Because placental abruption is one of the most commonly known causes of fetal mortality and in cases of delayed treatment can cause a severe drop in hemoglobin; As a result, it is recommended that one of the differential diagnoses of hemoglobin decline during pregnancy be placental abruption and effective measures be taken immediately to prevent hemoglobin decline.

**Declaration of Competing Interest:**

The authors report no declarations of interest.



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**Ethics statement:**

Written informed consent was obtained from the individuals for the publication of any potentially identifiable data included in this article.

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