

# Postpartum Hemorrhage after a Caesarean Section for Placenta Previa Centralis-Conservative Management

Astrit M. Gashi

University Clinical Center of Kosovo, Obstetrician and Gynecological Clinic, Prishtine, Kosovo

---

## Correspondence

Astrit M. Gashi University Clinical Center of Kosovo, Obstetrician and Gynecological Clinic, Pristine, Kosovo

13.K. e Diellit St. "Afrim Zhitia" BLL 3 Hy 1, No.11-1, Pristine 10 000, Kosovo

Tel: +377 44-266 902

**E - mail:** astritgashi772@gmail.com

## Abstract

Placenta previa is the placement of the placenta in the inferior segment of the uterine cavity. This defective implantation of the placenta is in most cases due to a defective vascularization of the decidua. Multiparity, great mother's age, previous abortions, previous caesarean section, multiple pregnancy, fetal abnormalities, leiomyoma uteri act., constitute some risk factors that favor the development of placenta previa. In report to the degree of coverage of the internal orifice of the uterus from placental tissue, placenta previa divided into: placenta previa totalis, placenta previa partialis, placenta previa marginalia and low-lying placenta. The dominant clinical signs are vaginal bleeding, which varies from light spotting to heavy bleeding that could seriously endanger the woman's life. In diagnosing of placenta previa helpsymptoms and signs U/S examination is used for diagnosis with up to 95 percent accuracy. Placenta previa complications appear on 0.5% of all pregnancies. These

complications can be; maternal and fetal. All these complications have an effect on the increase of maternal and fetal or neonatal mortality rate. We report a case of a 31-year-old woman admitted to our hospital in the department of Obstetrics and Gynecology with signs and symptoms of placenta previa. One day later, the patient gave birth by caesarean section to a healthy baby, but two hours later, the patient's condition was complicated by postpartum hemorrhage (PPH). The diagnosis was based on symptoms and signs as continuous bleeding 'ex utero', clots in vagina, uterine atony, distended bladder, blood loss greater than 1,000 ml, there were signs of a clinically apparent shock. Using a conservative approach such as the application of uterotonic drugs and uterine massage, we managed to save the uterus of the patient.

**Key Words:** placenta previa; postpartum hemorrhage

---

## Introduction

Placenta previa is the placement of the placenta in the inferior segment of the uterine cavity. This defective implantation of the placenta is in most cas-

es due to a defective vascularization of the decidua. Multiparity, great mother's age, previous abortions, previous caesarean section, multiple pregnancy, fetal abnormalities, leiomyoma uteri act., constitute

some risk factors that favor the development of placenta previa<sup>1,2</sup>. In report to the degree of coverage of the internal orifice of the uterus from placental tissue, placenta previa is divided into: placenta previa totalis, placenta previa partialis, placenta previa marginalia and low-lying placenta. The dominant clinical signs are vaginal bleeding, which varies from light spotting to heavy bleeding that could seriously endanger the woman's life. In diagnosing of placenta previa help symptoms and signs U/S examination is used for diagnosis with up to 95 percent accuracy. Placenta previa complications appear on 0.5% of all pregnancies<sup>3</sup>. These complications can be; maternal and fetal. Maternal complications of placenta previa are: hemorrhage, higher rates of blood transfusion, preterm delivery, placental abruption, disseminated intravascular coagulopathy, postpartum endometritis etc.<sup>4</sup> while complications of placenta previa in the fetuses and neonate are: fetal intrauterine growth retardation (IUGR), fetal anemia and rhesus isoimmunisation, abnormal fetal presentation, low birth weight, neonatal respiratory distress syndrome, sudden infant death syndrome (SIDS), jaundice, longer hospital stay, etc.<sup>5</sup> All these complications have an effect on the increase of the maternal and fetal or neonatal mortality rate<sup>4,5</sup>.

### Case report

A 31-year-old woman, with body mass index (BMI): 33.1 kg/m<sup>2</sup>, smoker (2 packs per day for 5 years). She had two children born by Cesarean section and a spontaneous abortion in the tenth week. The indications for the first cesarean delivery were; incomplete breech presentation, oligohydramnios, obesity, while for the second Cesarean delivery were: late decelerations during labor, previous cesarean delivery, obesity. Spinal anaesthesia was used. There were no complications in her previous deliveries. At week 38 of pregnancy, she was admitted to the hospital in the department of Obstetrics and Gynecology with sudden heavy vaginal bleeding. The blood was red and without clots. Pulse was 97 beats/minute, blood pressure 100/70 mmHg, respiratory rate; 19 breaths per minute, color of skin and the mucous membranes

pale, the patient was oriented in time and space. On bimanual examination, uterus was soft and painless. Fetal movements were normal. Uterine contractions were uncoordinated and later disappeared. During cardiotocographic monitoring, fetal heart rhythm was 155 beats per minute, intrauterine pressure during contraction was 20 mmHg, with frequency one contraction every 10 minutes and the duration was approximately 30mm/seconds. In ultrasonography, the placenta was fully covering the orificium internum uteri, so the diagnosis was placenta previa centralis. There was no fetal anomaly. Full blood count was taken in order to measure hemoglobin level that was 9,2 gr/dL, hematocrit: 32.1%, bleeding time was 4 minutes, platelet number; 211.000 platelets per microliter of blood, prothrombin time (PT); 13 seconds, partial thromboplastin time (PTT); 32 seconds, International normalized ratio (INR); 1.0, Fibrinogen; 3 g/l. The patient was being treated with supplements of iron and folic acid (60 mg of elemental iron + 0.4 mg folic acid, one supplement daily), since the 24th week of gestation. The woman claimed that since week 16 of pregnancy had spotting, while at week 28 spontaneous vaginal bleeding appeared, which was painless and profuse. At this time she was diagnosed with placenta previa. For this reason she was hospitalized and treated for two weeks. Initially, she took tocolytics as indomethacin 100 mg suppositories two times daily, per two days, then anti-anemic drugs as Tothema ampoules of 10 ml, one time daily and bed rest. She was released from hospital with instructions and a prescription. During her last hospitalization, 4 units of blood were provided, ISO-group, ISO-rhesus, and fresh frozen plasma, because the possibility of hemorrhage was predicted during and after birth. Because the pain calmed down, birth did not performed immediately. It was programmed by Cesarean section in the morning, with the presence of anesthesiologist and neonatologists. An informed consent was taken by the patient in case of emergency obstetric hysterectomy. Initially, abdominal wall was opened and then opened the uterus wall. During operative intervention is used in spinal anaesthesia, ASA Score is ASA II, hematocrit

was 32.1%, placenta was found on the internal orifice of the uterus and completely covering it. Amniotic cavity was opened on the upper side of the placenta and delivered to the child, with Apgar scores (1st: 7, 5th: 9) and body weight 3,650 grams/ height 53 cm. Placenta was extracted of complete. She had bleeding from the uterine venous sinuses, which was controlled by ligation and application of oxytocin crystalloid 20 IU in perfusion with a speed 10-15 UI/min. Because of hemorrhage, we started with the blood transfusion with two units of blood, with blood group A Rh-D positive. Two hours later, the doctor found a postpartum hemorrhage (PPH), a serious emergency. The diagnosis was based on symptom and sign as continuous bleeding ex utero, clots in vagina, uterine atony, distended bladder, blood loss greater than 1,000 ml, there were signs of a clinically apparent shock. The pulse of the mother was 122 beats per minute, respiratory rate; 19 breaths per minute, blood pressure were 75/45 mmHg, and had a considerable amount of blood on the bed. Color of skin and the mucous membranes were very pale. A Major PPH was diagnosed. We continued the blood transfusion and we started massage of the fundus of the uterus, 0.5mg ergometrine IV and 10UI oxytocin IV in physiological solution 0.9%, with 30 drops/min have been applied. A speculum examination was done, and some of the blood clots were removed, and was observed that flow of fresh arterial blood, continues. During the U/S exam the uterine cavity was full of blood. Because the bleeding continues (more than 2 hours and blood loss > 1,000 ml), the decision was taken for relaparotomy. During laparotomy the uterine incision was found intact. Uterus was slightly contracted. Prostaglandins were injected in the uterine muscle (250 micrograms prostaglandin F2 Alpha into the uterine wall, to arrive a quick tetanic contraction of the uterine muscle), and direct pressure was exerted, over uterus with both hands for 25 minutes. Woman's condition was stabilized (bleeding stopped, the normal contraction of the uterine muscle, pulse was 83 beats per minute, respiratory rate; 16 breaths per minute, blood pressure was stabilized 110/75mmHg, hematocrit was 34.2 %) and the ab-

domen was closed. After the operation, the patient was monitored for abnormal bleeding from the genital tract for thirty minutes and there was no bleeding. The woman was monitored in intensive unit care for 24 hours. Her condition was stable. She was satisfied by the fact that her uterus had been preserved.

## Discussion

Placenta previa is an obstetric complication that occurs in 1% to 3.7%, in women with previous caesarean section, and increases with the increase of number of births by caesarean section<sup>6</sup>. Placenta previa affects about 1 in 200 pregnant women in the third trimester of pregnancy, but in the 16th week of pregnancy, it can go up to 15 percent<sup>7</sup>.

A meta-analysis showed that the rate of placenta previa increases with a rate of 1% after 1 cesarean delivery, 2.8% after 3 cesarean deliveries, and as high as 3.7% after 5 cesarean deliveries<sup>6</sup>.

A 7-year study has concluded that a history of previous cesarean section was associated with a significant increase in maternal morbidity, including massive hemorrhage, placenta accreta, and hysterectomy<sup>8</sup>.

Our case was a patient who has had two births by caesarean section, but her third pregnancy was complicated by placenta previa. In a prospective study, from 41,206 consecutive deliveries 1,851 had had a previous caesarean section and 222 had placenta previa<sup>9</sup>. Also, a prospective study shows that the risk of placenta previa was 0.25% with an unscarred uterus and 1.22% in patients with one or more previous cesarean section<sup>10</sup>.

Birth by caesarean section is indicated for all patients who have placenta previa diagnosed on ultrasound<sup>11,12</sup>. In these births, the doctor must be aware of the possibility of rapid blood loss during the birth process. The moment of separation of the placenta, bleeding is controlled by uterine contractions and contraction of the myometrial fibers around spiral arterioles<sup>13</sup>.

Because of the lower uterine segment is often contracted less than the upper segment, severe bleeding may occur in the place of implantation of the placen-

ta. Approximately 1.5% - 4.1%, uterine contractions are totally absent, the condition is called atony of the uterus<sup>14</sup>.

1 in 20 births are complicated with uterine atony<sup>15</sup>, one of the reasons is the placenta previa. Physiological blood losses during childbirth are dependent on the type of delivery. The average blood loss in a birth by caesarean section is 1,000 ml<sup>16</sup>. For control of postpartum hemorrhage, uterotonics and uterine massage represent the first line of treatment in most of guidelines for the treatment of PPH<sup>17,18</sup>.

The importance point in our case report is that no radical surgical treatment was used for the management of the postpartum hemorrhage and the problem was solved with conservative treatment such as uterine massage (direct pressure with both hands for 25 minutes) and uterotonics.

### Conclusion

It is known that cesarean deliveries predispose to placenta previa, placenta accreta and possibility of postpartum complications, in the form of antepartum, intrapartum and postpartum hemorrhage. It is very important that delivery must be done quickly. Maternal mortality is related to slow and uncertain decision-making<sup>4,5</sup>. Using a conservative treatment such as the application of uterotonic drugs and uterine massage, woman's uterus can be saved. Therefore only these two actions are often sufficient to save the uterus. ■

### Conflict of interests

The authors declare that they have no conflict of interest.

### References

- Mónica G, Lilja C. Placenta previa, maternal smoking and recurrence risk. *Acta Obstetrica et Gynecologica Scandinavica* 1995; ;74(5): 341-345.
- Taylor VM, Kramer MD, Vaughan TL, Peacock S. Placenta Previa and Prior Cesarean Delivery: How Strong is the Association? *Obstetrics & Gynecology* 1994; 84(1): 55-57.
- Iyasu S, Saftlas AK, Rowley DL, Koonin LM, Lawson HW, Atrash HK. The epidemiology of placenta previa in the United States, 1979 through 1987. *American Journal of Obstetrics and Gynecology* 1993;168(5):1424-1429.
- Frederiksen MC, Glassenberg R, Stika CS. Placenta previa: A 22-year analysis. *American Journal of Obstetrics and Gynecology* 1999;180(6):1432-1437.
- Zlatnik MG, Cheng YW, Norton ME, Thiet MP, Caughey AB. Placenta previa and the risk of preterm delivery. *The Journal of Maternal-Fetal & Neonatal Medicine*. 2007; 20(10): 719-723.
- Marshall NE, Fu R, Guise JM. Impact of multiple cesarean deliveries on maternal morbidity: A systematic review. *American Journal of Obstetrics and Gynecology*. 2011; 205(3): 262-e1.
- Neilson JP. Interventions for suspected placenta praevia. *The Cochrane Library* 2003.
- McShane PM, Heyl PS, Epstein MF. Maternal and perinatal morbidity resulting from placenta previa. *Obstetrics & Gynecology* 1985; 65(2): 176-82.
- Chattopadhyay SK, Kharif H, Sherbeeni MM. Placenta praevia and accreta after previous caesarean section. *European Journal of Obstetrics & Gynecology and Reproductive Biology* 1993; 52(3): 151-156.
- Nielsen TF, Hagberg H, Ljungblad U. Placenta previa and antepartum hemorrhage after previous cesarean section. *Gynecologic and Obstetric Investigation* 1989; 27(2): 88-90.
- Leerentveld RA, Gilberts EC, Arnold MJ, Wladimiroff JW. Accuracy and safety of transvaginal sonographic placental localization. *Obstetrics & Gynecology* 1990; 76(5): 759-762.
- Sherman SJ, Carlson DE, Platt LD, Medearis AL. Transvaginal ultrasound: Does it help in the diagnosis of placenta previa? *Ultrasound in Obstetrics & Gynecology* 1992; 2(4): 256-260.
- Silver RM. Abnormal placentation: Placenta previa, vasa previa, and placenta accreta. *Obstetrics & Gynecology* 2015;126(3): 654-668.
- Lutomski JE, Byrne BM, Devane D, Greene RA. Increasing trends in atonic postpartum haemorrhage in Ireland: An 11-year population-based cohort study. *BJOG: An International Journal of Obstetrics & Gynaecology* 2012;119(3): 306-314.

15. Dildy Iii GA. Postpartum hemorrhage: New management options. *Clinical obstetrics and gynecology* 2002; 45(2): 330-344.
16. Pritchard JA, Baldwin RM, Dickey JC, Wiggins KM. Blood volume changes in pregnancy and the puerperium: 2. Red blood cell loss and changes in apparent blood volume during and following vaginal delivery cesarean section and cesarean section plus total hysterectomy. *American Journal of Obstetrics and Gynecology* 1962; 84(10): 1271-1282.
17. Stainsby D, MacLennan S, Hamilton PJ. Management of massive blood loss: a template guideline. *British journal of anaesthesia* 2000;85(3): 487-491.
18. Bonnar J. Massive obstetric haemorrhage. *Best Practice & Research Clinical Obstetrics & Gynaecology* 2000;14(1): 1-8.