HYSTERECTOMY IN THE 33RD WEEK OF PREGNANCY DUE TO PLACENTA PRAEVIA – A SEVERE OBSTETRIC COMPLICATION DESPITE CORRECT DIAGNOSIS

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ABSTRACT
Placenta praevia is one of the leading causes of maternal morbidity and mortality. The incidence of placenta praevia is from 0.1 to 1.0% of all births. Postpartum haemorrhage (PPH) is the most common cause of maternal death and is responsible for one-quarter of maternal deaths globally, approximately for 140,000 deaths annually. Obstetric haemorrhage can occur at any stage of pregnancy. In early pregnancy the major causes of bleeding are ectopic pregnancy, incomplete abortion and trauma. In the second half of pregnancy and during labour the most common causes of bleeding are placenta praevia, placental abruption and uterine rupture, including scar dehiscence after previous operations. The causes of postpartum bleeding are uterine atony, haemorrhage from the space of incorrectly nested placenta, infections, bleeding disorders, injuries and damage to the birth canal. Haemorrhage in the second half of pregnancy relates to 4% of pregnant women and they are most often related to abnormalities of the placenta. More than half of the cases are due to placenta praevia (22%) and improper localization of the placenta (31%). The study presents the case of postpartum haemorrhage and hysterectomy performed in a 30-year-old woman at 33rd week of pregnancy with placenta praevia.
Placenta praevia is an obstetric complication presented with vaginal bleeding in the second or third trimester of pregnancy due to abnormal localization of the placenta in the internal cervical ostium. Localization on the wall of the uterus matters. Complete praevia is a complete coverage of the cervical ostium by the placenta [1, 2]. The women at greatest risk of placenta praevia are those who have myometrial damage caused by a previous caesarean delivery with either anterior or posterior placenta praevia overlying the uterine scar [1]. Reported risk factors include: previous placenta praevia, previous caesarean delivery (CD), multiparity, advanced maternal age, maternal smoking and others [3]. An anterior placenta praevia increases the risk of hysterectomy for both primary and repeated caesareans due to abnormal placenta [4]. There is an increased risk of preterm delivery related to antepartum haemorrhage in women with complete placenta praevia [5].

Placental abruption is the partial or complete separation of the placenta from the uterine wall. This condition usually occurs in the third trimester but can occur any time after the 20 weeks of pregnancy. Risk factors for abruption include prior abruption, smoking, trauma, cocaine use, multifetal gestation, hypertension, preeclampsia, thrombophilia, advanced maternal age, preterm premature rupture of the membranes, intrauterine infections and polyhydramnios [6]. Placental abruption often happens suddenly [7].

In many countries the rate of placental abruption is increasing and is one of the most important causes of maternal morbidity and perinatal mortality [8, 9]. Approximately 10% of all preterm births and up to one-third of all perinatal deaths are caused by placental abruption [6, 10]. Associated peripartum risks for the mother are caused by bleeding and include need for blood transfusion, emergency hysterectomy, disseminated intravascular coagulation (DIC), renal failure and even maternal death [7, 11].

Placenta accreta is the improper attachment of placenta to the uterus. Improper attachment of placenta has three stages. The first is placenta accreta (PA) when placenta attaches directly to myometrium of the uterus. There is no decidua separating placenta and myometrium. The second is placenta increta (PI) when placenta invades into the myometrium and third is placenta percreta (PP), when placenta not only destroys the wall of the uterus, but also can invade local organs such as the bladder. Each of these conditions can lead to heavy bleeding during delivery when the placenta does not completely separate from the uterus [12].

PPH is often defined as the loss of more than 500 ml of blood following natural delivery and 1000 ml of blood following caesarean birth. Postpartum bleeding is called “early” if it occurs within 24 hours after childbirth or “late” if it occurs after 24 hours to 6 weeks post delivery [13].

CASE DESCRIPTION

A 30-year-old patient in third pregnancy, third delivery, 31 weeks of pregnancy, was admitted electively to the 2nd Department of Obstetrics and Gynaecology due to diagnosis of complete posterior placenta praevia and history of bleeding. In the past, the patient had a caesarean section complication with pulmonary embolism. The patient was on the continuous low molecular weight heparin treatment. During the observation period both the mother and the foetus were in good condition. Well-being of the child was controlled by cardiotocography (CTG), monitoring of movements, ultrasonography (USG) scan.

On the 13th day the patient reported pain in the lower abdomen and severe vaginal bleeding and due to suspicion of placental abruption she was admitted to emergency caesarean section. She delivered a boy weighing 2420 g who was 47 cm long, and was given 8-8-8 points in Apgar score. During the surgery there were difficulties with placentas removal from the areas close to cervix of uterus – suspicion of placenta increta. Severe bleeding from the cervix area of the uterus was stated. After administration of 5 units of oxytocin, followed by carbetocin and then suturing, bleeding significantly reduced. Uterine packing was done. After operation estimated blood loss was 3000 ml. Due to continuation of vaginal bleeding during suturing subcutaneous tissues and post-operation, the intubation of the patient was continued. She was observed in the operating theatre after emergency caesarean section. The patient received 4 units of packed red blood cells, 4 units of fresh frozen plasma and 6 mg of recombinant human coagulation factor VIIa – Novoseven. Due to decreasing parameters of general condition, hypotension (blood pressure 85/36 mmHg), tachycardia (heart rate 120/min), the patient was re-operated and hysterectomy without appendages was performed. After the operation, the patient was in good condition and discharged home on 8th day after emergency caesarean section. The histopathology examination of uterus confirmed placenta accreta.

DISCUSSION

PPH is the leading cause of maternal mortality in low-income countries and the primary cause of nearly one quarter of all maternal deaths globally [14]. According to the World Health Organization (WHO) recommendations for prevention and treatment of postpartum haemorrhage, if bleeding persists, despite treatment with uterotonic drugs and other conservative interventions, surgical intervention should be performed without further delay [14].

Peripartum hysterectomy occurs in 1 in 1913 deliveries [15]. Risk factors associated with significant risk for hysterectomy include mode of delivery, stillbirth, placental abruption, fibroids, and antepartum haemorrhage [15]. Approximately 0.4-1% of pregnancies are complicated by placental abruption [7].

Placental abruption is recorded in 10.1 per 1000 and 13.9 per 1000 singleton births [16]. Maternal age over 35 years, smoking and hypertension are risk factors for abruption [16]. In the analysis of Getahun et al. [17], the pregnancy after caesarean delivery was associated with increased risk of placenta praevia compared to vaginal delivery.
Placental abruption is not only life-threatening for the mother, but also impacts outcome of the child. In the study of Nkwabong et al. [18], placental abruption was significantly associated with poor perinatal outcome. Detachment of more than 45% of the placenta was always associated with stillbirth. Separation of 25-44% was associated with various degrees of neonatal asphyxia. Compared to marginal separation of the placenta, central separation was significantly more often associated with stillbirth (77.8% versus 10.5%, p < 0.0002) and perinatal death (88.9% versus 13.1%, p < 0.0001) [18].

Placenta praevia occurs in 0.1% to 1.0% of pregnancies [2]. Abnormal placentation is the commonest indication leading to severe postpartum haemorrhage requiring peripartum hysterectomy. Previous caesarean section is strongly associated with abnormal placentation [19]. Palova et al. [20] reported that placenta accreta is the second most common indication for an emergency peripartum hysterectomy. There is a high suspicion of placenta accreta in patients with placenta praevia with previous caesarean section [19, 20].

Doumouchtsis et al. [21] performed a systematic review to identify all studies evaluating the success rates of treatment of major postpartum haemorrhage by uterine balloon tamponade, uterine compression sutures, pelvic devascularization and arterial embolization, and discovered that at present there is no evidence to suggest that any method is better for the management of severe postpartum haemorrhage. The cumulative outcomes showed success rates of 90.7% (95%CI: 85.7%-94.0%) for arterial embolization, 84.0% (95%CI: 77.5%-88.8%) for balloon tamponade, 91.7% (95%CI: 84.9%-95.5%) for uterine compression sutures, and 84.6% (95%CI: 81.2%-87.5%) for iliac artery ligation or uterine devascularization [21].

Surgical treatment of PPH is used as the last treatment, when previous procedures (prostaglandins, intrauterine tamponade, embolization) have failed, or sometimes from the start when a severe life-threatening PPH requires stoppage of bleeding in the shortest possible time. All obstetricians can face these situations during their practice [22]. The surgical treatment of patients with postpartum haemorrhage is a significant challenge which requires detailed analysis and indications, but is a lifesaving procedure for many patients.

CONCLUSION

We need to remember that even though placenta praevia occurs in 0.1% to 1.0% of pregnancies, it is still one of the most actual obstetric problems. It is important to consider that with the growing number of caesarean sections, the risk of improper localization of placenta also grows. Single caesarean section increases the risk of placenta praevia by 0.65% and four by almost 10% [23]. With an increasing number of caesarean sections, we can be threatened by growing frequency of placenta praevia in the future and its serious complications. This case also shows that placenta praevia and its complications is a threat for each obstetrician even if we have modern, evidence based medicine and proper approach to individual patients.

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ABBREVIATIONS

PPH – Postpartum haemorrhage
CD – caesarean delivery
DIC – disseminated intravascular coagulation
PA – placenta accrete
PI – placenta increta
PP – placenta percreta
CTG – cardiotocography
USG – ultrasonography
WHO – World Health Organization

REFERENCES

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