



Placenta accreta located in the posterior wall of the uterus: a case report

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Received 22 February 2016; Accepted 16 May 2016

Available online 20 May 2016 with doi: 10.5455/medscience.2016.05.8480

Abstract

Abnormal invasive implantation of the placenta is thought to occur as a result of the defect in the decidua basalis of the women who have a history of cesarean delivery. Massive obstetric hemorrhage incidence is increased in placenta accreta cases. Although ultrasonographic and doppler examinations, and magnetic resonance imaging (MRI) are widely used, the diagnosis of placenta accreta in the early pregnancy weeks is poor. Therefore, the presence of life-threatening vaginal bleeding in the early pregnancy weeks must create a suspicion of placenta accreta. In this report, we will present a second trimester placenta accreta case, which was located on the posterior uterine wall.

Keywords: Placenta accreta, ultrasound, doppler ultrasound, vaginal bleeding, early pregnancy

Introduction

Placenta accreta, is defined as partial or complete adhesion of placenta into the myometrium pathologically¹. In histological view, the placental adherence anomalies have 3 subgroups; 1) placenta accreta (%81.6), chorionic villi are spread almost to the end of the myometrium in the decidua 2) placenta increta (%11.8), chorionic villi are spread to myometrium. 3) placenta percreta (%6.6), chorionic villi are spread to whole myometrium, even including uterine serosa [1]. Placenta accreta is seen in three out of every thousand newborns [2]. Life-threatening, massive vaginal bleeding may be observed [3]. Placenta previa and in particular the increased number of caesarian deliveries are important risk factors 4 for placenta accrete. Previous uterine surgeries, being over 35, grand-parity, smoking, previous uterine curettage operations, endometrial ablation, Asherman's syndrom, uterine submucosal fibroids are also the other risk factors [4,5]. Placenta accreta may cause local injuries, amniotic fluid embolism and most importantly complications leading to maternal death because of life-threatening bleeding [3]. Ultrasonography with Doppler imaging techniques and magnetic resonance imaging (MRI) are used in the diagnosis of placenta accrete, during the antenatal period [6]. The pregnancies having the gestational sac in the lower uterine segment, in the first trimester, are at increased risk for placenta accreta in the third trimester [7]. The occurrence of multiple lacunae in the placenta,

in the second and third trimesters, has 80-90% diagnostic sensitivity for placenta accreta [8]. Loss of the retroplacental hypoechoic area [9,10] and the increased vascularity on colored Doppler ultrasonographic examination are the other markers for placenta accreta [11,12]. In this report we will present a patient, who had a previous caesarean delivery with lower uterine segment incision, and admitted to our clinic with preterm premature rupture of membranes (PPROM) in the second trimester. Medical evacuation of the uterus was applied due to anhydramios; and one month after her discharge, she admitted to hospital due to her continuous vaginal bleeding and had the diagnosis of placenta accreta in the posterior uterine wall.

Case Presentation

26 years of age, G2P1Y1 patient, in her 21 week-pregnancy, admitted to our clinic with vaginal discharge and spotting type of vaginal bleeding. She had her previous cesarean delivery, 11 years ago. She had rupture of amniotic membranes in her present pregnancy, and active amniotic flow was observed. Sample for cervical culture was taken. Single, alive, head- presented fetus was observed during the ultrasonographic examination. There was no amniotic fluid and the fetus was fully contracted in the uterus. Vital signs of the patient, and her infection markers (white-blood cell count and C reactive protein) were within normal limits. Antibiotic administration was started after cervical culture sampling. The family was informed about the pregnancy outcome and they decided to have medical evacuation and signed informed consent. A day after hospitalization, the patient had medical evacuation. The placenta did not have spontaneous separation and no bleeding was observed. Complete medical treatment was applied. In

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the meantime, active vaginal bleeding developed and partial separation of the placenta was observed. The remaining placenta was adherent to the uterine wall. Blood transfusion to the patient was started before the examination under general anesthesia. Despite of the blood transfusion, the hemoglobin level was 9.7 g/dl, and its control resulted in 4.6 g/dl. Although complete medical intervention was used and manual manipulation was tried; the placenta could not be separated. Vaginal bleeding continued and laparotomy became a necessity. A Bakri balloon was applied vaginally to the patient. The previous incision site was intact and there was not any rupture in the uterine wall, nor could any bleeding area be observed. The operation was ceased. 6 units of erythrocyte suspension (ES) and 6 units of fresh frozen plasma (FFP) were used in total, to stable the vital signs of the patient. Postoperative hemoglobin was 10.4 g/dl, and there was not any active vaginal bleeding. Bakri balloon was removed after 24 hours from the operation. Ultrasonographic examination did not yield any pathology in uterine cavity. During the follow up period, the patient had no other problems and was discharged on the sixth day, from the operation.

Approximately one month later, the patient admitted to our clinic with the complaint of vaginal bleeding. It was learned that she had continuous vaginal bleeding since her discharge from the hospital, and did not seek medical help for it during that time period. A hyperechoic area of 43x 53mm in size was observed on the posterior uterine wall by ultrasonography. Doppler ultrasonography demonstrated the blood flow in the myometrial and hypoechoic areas (Figure 1). Spotting type of vaginal bleeding was observed in sterile speculum examination, and thorough the cervical opening some part of the mass could be seen. The hemoglobin level of the patient was 12.2 gr/dl. MRI of the patient was suitable with

intracavitary hematoma. Diagnostic laparoscopy and hysteroscopy was planned for the patient; and she was hospitalized. Any pathology was observed neither in the previous caesarean incision site nor in the posterior uterine wall. In the diagnostic hysteroscopy session, placenta in 5x5 cm size was observed in the posterior uterine wall; and active vaginal bleeding started during the examination. Despite all the medical treatment; laparotomy was inevitable. Hysterectomy was applied to stop the life- threatening bleeding of the patient (Figure 2). During the operation, 4 units of ES and 4 units of FFP were transfused to the patient. The hemoglobin level could be stabilized at 8.3 gr/dl level. After 8 days from the operation, the patient could be discharged from the hospital, without problems during the follow- up. Hysterectomy material in hematoxylin eosin (HE) staining was confirmed by the pathology, as placenta accreta (Figure 3).



Figure 1. Hyperechoic area 43x53 mm in size was observed on posterior uterine wall

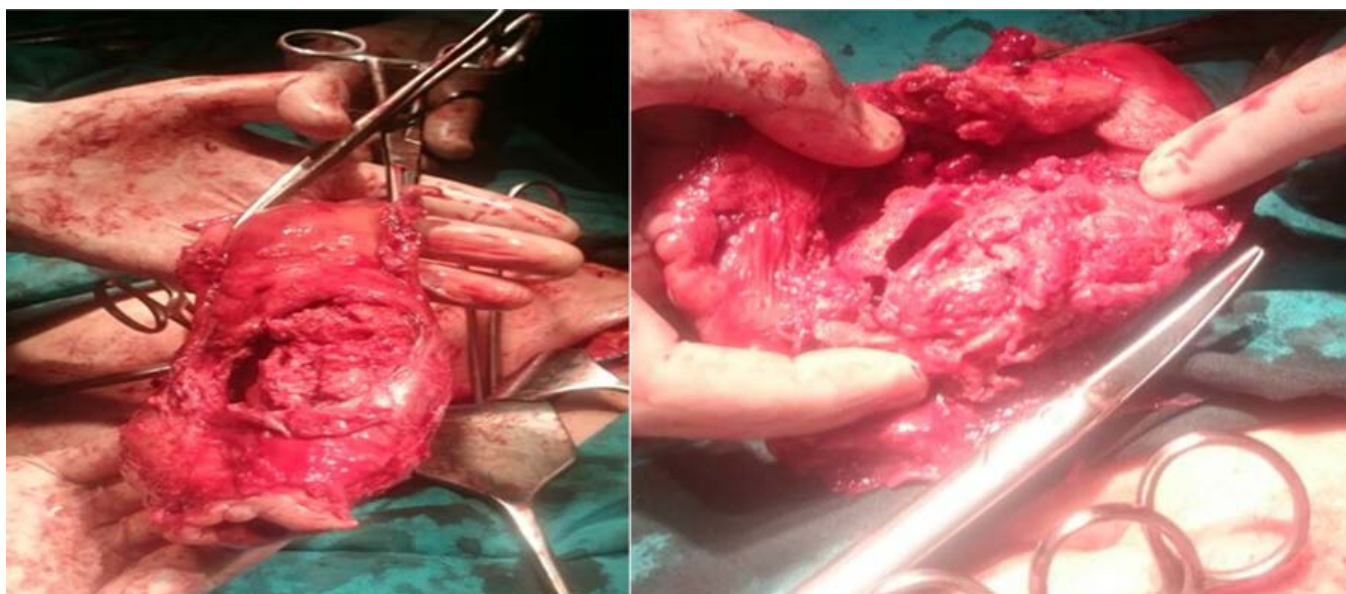


Figure 2. After the hysterectomy operation, placenta of about 5x5 cm arising from the posterior wall of the uterus

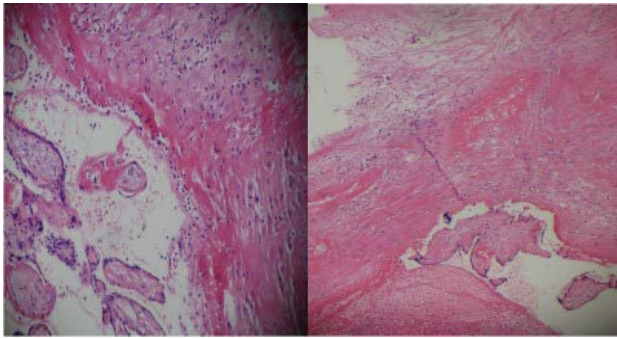


Figure 3. Hysterectomy material stained with Heamatoxylin eosin; pathology was reported as placenta accreta.

Discussion

Increase in the number of cesarean deliveries is significantly correlated to increased probability of placenta accreta [13]. Our patient had a history of previous cesarean delivery 11 year- ago; but did not experience any intrauterine surgery or curettage procedure. She admitted to our clinic with rupture of membranes; and placenta previa was not observed in her ultrasonographic evaluation. The increased incidence of placenta accreta has been reported in the pregnancies observed to have gestational sac, located close to the previous cesarean incision, in the lower uterine segment [14]. After the removal of the placenta and balloon tamponade of the uterus, there was not any active vaginal bleeding, causing suspicion of placenta accreta. There were not any ultrasonographic findings supporting placenta accreta, too. Besides, the placenta was located on the posterior uterine wall. It is easier to diagnose placenta accreta when the suspected cases are complicated by vaginal bleeding, after spontaneous or induced abortion; the incidence of which is 0.1-21% [15]. The causes of postpartum bleeding are placenta retention, uterine atony, coagulopathy, abnormalities of placental invasion and lacerations due to the operation [16]. Only a few cases have been reported about the diagnosis of placenta accreta before medical evacuation and those were in the patients suspected to have placenta previa [17-20]. Borgatta et al. reported uterine artery embolization technique, in 8 cases, suspected to have placenta accreta, because of continuous vaginal bleeding after delivery, spontaneous and induced abortion. They applied pelvic arterial embolization in 2 cases suspected to have placenta percreta, and chose hysterectomy in one other percreta case, primarily [17]. Satoco et al. reported a 41 year- old patient, having PPRM at 20 weeks of gestation, and bleeding due to placenta previa. After the termination of the pregnancy, they had to apply hysterectomy to the patient because of continuous vaginal bleeding. The pathologic examination of the hysterectomy material yielded the diagnosis of placenta accrete [21]. In our case, doppler ultrasonography resulted in a hyperechoic lesion, having intense blood flow, on the posterior uterine wall; when the patient admitted to our clinic one month after from the evacuation procedure, with the complaint of vaginal bleeding. The MRI of the patient was suitable with hematoma.

Ultrasonography is the primary diagnostic tool to detect placenta accreta. Loss of the echogenic area between the uterus and placenta, and the bladder; the Swiss cheese appearance (lacunae in the placenta), and the view of an echogenic mass extending to the neighboring site of the bladder are diagnostic for placenta accrete [22]. Colored Doppler view also plays an important role in the evaluation of the placenta. Complex blood flow, bizarre retroplacental blood flow patterns [23], and abnormal placental vessels on the myometrial surface can be observed [22]. Studies comparing the results of ultrasonography and MRI, in the diagnosis of placenta accreta, have been increasing. Warshak et al. applied MRI to 42 patients having the suspicion of placenta accreta with ultrasonographic examination; and reported 88% sensitivity and 100% specificity [24]. Dwyer et al. compared the accuracy of ultrasonography and MRI in 32 cases suspected to have placenta accreta; and reported 92% sensitivity and 65% specificity for ultrasonography [25].

Once placenta accreta is diagnosed, a limited number of treatment options are available. The clinical presentation of the patient affects the choice. Medical treatment (methotrexate injection), surgery and uterine artery embolization are the fertility protecting treatment modalities for placenta accreta, in the early weeks of gestation. They have excessive hemorrhage, resulting in disorder of the clotting system and septicemia risks [26]. Hysterectomy is preferred in other cases [17, 27].

We applied Bakri balloon and controlled the hemorrhage after the evacuation. We did not use any other intervention since the clotting parameters of the patient were stable, and there was not any active vaginal bleeding. In the second admission of the patient, which was 1 month later from the initial hospitalization, we made an emergent hysterectomy; because of the incurable hemorrhage which had started during the diagnostic hysteroscopy operation.

As a result, abnormalities of placental invasion should be investigated in cases of continuous vaginal bleeding, after placenta previa, spontaneous or induced abortions. If we use ultrasonography, Doppler ultrasonography and MRI, the accuracy of the diagnosis of placental invasion abnormalities will be higher in early gestational weeks than the advanced ones. Suspicion of placenta accreta will lead us to correct diagnosis.

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