

Spontaneous Uterine Rupture Due to Placenta Percreta in a 17-Week Twin Pregnancy

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ABSTRACT

Spontaneous rupture of previous uterine scar due to placenta percreta in early second trimester is a very rare and serious complication. A 27-year fourth gravida, second para with previous two lower segment caesarean sections, presented at 17-week of twin pregnancy with acute abdominal pain. Ultrasonography revealed 17-week diamniotic-dichorionic twin pregnancy with alive fetuses. The placenta of the first twin was anterior, low lying covering the internal os and penetrating through the entire thickness of the lower uterine wall laterally. Significant hemoperitoneum was seen. Emergency laparotomy showed rupture of previous uterine scar with placenta percreta bleeding actively. A transverse fundal incision was given to deliver the twins and total abdominal hysterectomy with preservation of both ovaries was performed. The patient was discharged on fourth postoperative day without any complication. Histopathology of specimen of the uterus confirmed placenta percreta to be the cause of uterine rupture.

Key Words: *Uterine rupture. Placenta percreta. Twin pregnancy.*

INTRODUCTION

Placenta percreta is defined as the invasion of chorionic villi through the myometrium and serosa, and sometimes extending into the adjacent organs like bladder. It is frequently seen in patients with previous caesarean delivery.¹ The increase in the rate of caesarean sections has resulted in a concomitant increase in the incidence of placenta accreta from 1 in 4,027 pregnancies in the 1970s to 1 in 533 pregnancies during 1982 - 2002.² Placenta percreta is very rare, with a 5 - 7% incidence among all cases of abnormal placentation. The incidence of placenta percreta is 1/140000 deliveries. Spontaneous uterine rupture due to placenta percreta mostly occurs during the third trimester. Placenta percreta in early pregnancy is a very rare and life-threatening complication. The risk of uterine rupture due to placenta percreta in early second trimester is very low, with an incidence of 1 in 5,000 pregnant women.

Very few case reports have shown its occurrence even during the first trimester.³ It is a life-threatening condition with increased maternal morbidity and mortality due to massive hemorrhage; but early diagnosis and prompt surgical intervention, as done in this case, can save the life of the patient.

A case of a pregnant woman is reported here, who had spontaneous uterine rupture at 17-week gestation due to placenta percreta.

CASE REPORT

A 27-year fourth gravida, second para with one abortion with previous two lower segment caesarean sections, presented at 17-week gestation through emergency with acute lower abdominal pain for the last 4 hours, followed by epigastric pain radiating to shoulders, associated with nausea and vomiting. There was no history of bleeding per vaginum on presentation. She was diagnosed to have diamniotic-dichorionic twin pregnancy at 10 weeks gestation; and 16 weeks scan revealed that first twin had low lying placenta, completely covering the internal os.

She also had history of an episode of mild bleeding per vaginum at 15 weeks. Regarding past obstetrical history, she had previous two full term pregnancies, delivered by lower segment caesarean sections with no complications during pregnancy, operation or puerperium. Her last caesarean section was carried out 1 year back. She had previous one spontaneous miscarriage at 10 weeks, managed by dilatation and curettage (D&C). Medical and surgical histories were insignificant. On physical examination, the patient was conscious with signs of shock; she was very pale with cold extremities, and had a weak pulse of 110 beats per minute. Her blood pressure was 110/70 mmHg. The abdomen was distended with severe tenderness, guarding, and rigidity. The uterus was 22 weeks in size and the fetal heart sounds of both twins were detected using the sonic aid. Bowel sounds were audible.

Abdomino-pelvic ultrasound initially revealed only a small amount of fluid in the splenorenal region (Figure 1a); but during the course of the scan, increased to moderate amount of echogenic intra-peritoneal fluid in the upper abdomen, in both paracolic gutters and left hypochondrium. The rest of the abdominal scan was normal. Sonographic evaluation of the uterus revealed

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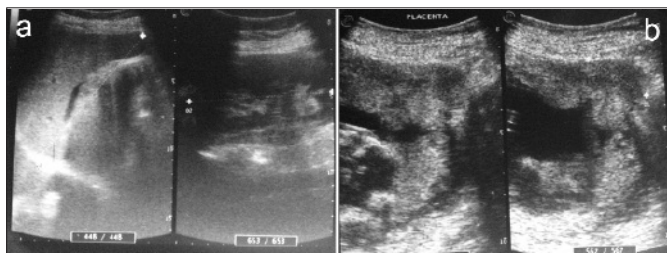


Figure 1: (a) Ultrasound image showing echogenic free fluid around the spleen, (b) Ultrasound image showing a part of placenta growing outside the uterus.

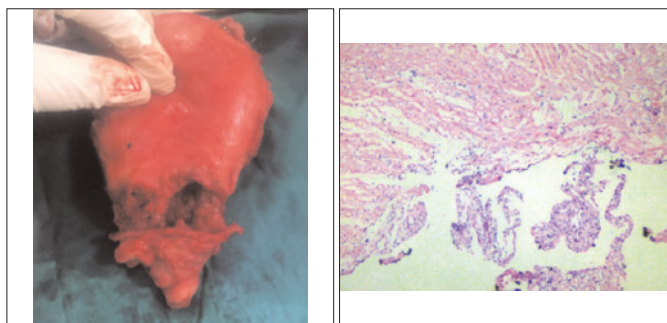


Figure 2: Uterine rupture at previous scar.

Figure 3: Placental villi invading in uterine myometrium.

twin alive gestation. The placenta of first twin was anterior and low lying covering the internal os completely; and it appeared to grow into and out of lower anterior uterine wall laterally on the left side, at the site of previous scar (Figure 1b). The second placenta was fundal and posterior.

Laboratory tests revealed hemoglobin 8.0 gm/dl, hematocrit 24%, RBC 2.6 million/ml, platelets 176,000/ml, TLC 11,400/ml, and urea and electrolytes values were normal. Liver function tests and coagulation profile was also normal. Serum amylase was 73 U/L with a normal urinalysis.

A provisional diagnosis of hemoperitoneum due to bleeding from placenta percreta was made and emergency laparotomy was planned. General Surgeon and Urologist were involved. Six units of whole blood were arranged, and consent for hysterectomy was obtained from the patient and her husband. Abdomen was opened by midline incision. There was hemoperitoneum of approximately 3 liters. Previous uterine scar was ruptured with placenta coming out of the rent with profuse bleeding (Figure 2). Lower uterine segment was packed, blood sucked to make the operation field clear. First, the twins were delivered through transverse fundal incision; placenta of second twin was also delivered completely and then total abdominal hysterectomy was done with *in situ* placenta percreta. Careful bladder dissection was done with the help of Urologist. Luckily, placenta was not invading the bladder wall. Both ovaries were normal looking and preserved. Hemostasis secured and peritoneal cavity washed with normal saline. Intraperitoneal drain was

inserted and the abdominal wall was closed. Specimen of uterus was sent for histopathology. Total blood loss was estimated to be 5 liters and the patient received 6 whole-blood and two fresh frozen plasma transfusions. Her Hb% was 9.0 gm/dl on 3rd postoperative day. Her postoperative period was uneventful except for low grade fever which settled with antipyretics and she was discharged on fourth postoperative day without any complications. Histopathology of hysterectomy specimen confirmed placenta percreta as the cause of uterine rupture.

DISCUSSION

Spontaneous uterine rupture due to placenta percreta is a very rare obstetric complication leading to significant hemoperitoneum that may compromise the lives of the fetus and the mother, thus requiring hysterectomy. As in this patient, very few cases have been reported in early second trimester.⁴

A thorough review of literature has revealed that due to marked increase in caesarean section rate in recent years, the prevalence of spontaneous rupture of the uterus, due to placenta percreta, has increased in early pregnancy.

In this case, an early provisional diagnosis and urgent management saved the life of the patient as severe hemorrhage may cause death. One such patient died due to hypovolemic shock and generalised coagulopathy as a result of spontaneous uterine rupture at fundus, due to placenta percreta at 18 weeks after *in vitro* fertilization.⁵

Risk factors for placenta accreta in this patient were placenta praevia, uterine curettage, previous caesarean deliveries, and multiple pregnancy. Other risk factors include history of manual removal of the placenta, high parity, myomectomy, and *in vitro* fertilization.⁶

In most of the cases, as seen in this case, the site of uterine rupture was previous scar in lower uterine segment; but a few cases of spontaneous rupture of a non-scarred uterus in the early pregnancy have also been reported. A 30-year, third gravida, first para with previous one caesarean section, presented at 18 weeks gestation with acute abdominal pain and hemoperitoneum. During exploratory laparotomy, rupture of the uterine fundus was seen with placenta percreta. Hysterectomy was performed.⁷ Another case of large rupture of the uterine fundus at 16 weeks was found in a woman with previous two normal vaginal deliveries, without any previous history of trauma to the uterus.⁸

Most of the cases of ruptured uterus due to placenta percreta are managed by hysterectomy, similar to this case, because of difficulty in obtaining haemostasis. However, a case rupture of uterus at the fundus during 16 weeks of gestation due to placenta percreta was

repaired and bilateral tubal ligation was done.⁹ Moreover, if it is diagnosed antenatally without rupture, placenta can be left *in situ* and conservative managements like uterine artery embolization or injection Methotrexate can be given in selected patients or in cases of bladder involvement.

Uterine rupture must be considered in differential diagnoses of severe abdominal pain in patients with or without risk factors with placenta percreta and acute abdomen with hemoperitoneum, even in the early second trimester.

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