

# Spontaneous Rupture of Primigravid Uterus Due to Morbidly Adherent Placenta

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## ABSTRACT

Morbidly adherent placenta in a nulliparous woman is a rare phenomenon. An unusual case of a 20 years old primigravida presented in emergency with unstable haemodynamics and abdominal pain at 17 weeks of gestation is reported. She was found to have complete placental invasion and hemoperitoneum on laparotomy. Although there is an increased risk of placental invasion (increta and percreta) causing uterine rupture in previous caesareans but morbid adhesion resulting in placenta percreta without previous uterine surgery is a rarity. Exact pathogenesis is still unknown. Prenatal diagnosis with the help of Doppler ultrasound and MRI is important to reduce both fetal and maternal morbidity and mortality.

**Key words:** *Morbidly adherent placenta. Hemoperitoneum. Placenta percreta. Maternal Morbidity.*

## INTRODUCTION

Morbidly adherent placenta carries a great risk to the life of the woman and her fetus. Different types of invasive placentae are accreta, increta and percreta. These invasions are commonly seen in previously scarred uterus, either due to caesarean section, myomectomy, or repeated curettage. Placental invasion in an unscarred uterus is an unusual finding and different cases have been reported specially in the second and third trimesters.<sup>2,3</sup> These patients may present with painless intra peritoneal hemorrhage.

The present report is a rare case where uterine rupture has occurred in the first pregnancy due to complete placental invasion at the fundus of the uterus at 17 weeks of gestation.

## CASE REPORT

A lady aged 20 years presented at the Casualty Department of Obstetrics and Gynaecology, JPMC with severe abdominal pain. She had conceived two months after marriage and the presentation was at 17 weeks of gestation. She was conscious, well oriented and gave a history of pain in abdomen since the last 10 days. She had no history of trauma or any complaint of vaginal bleeding. She was referred from a private clinic where an ultrasound scan had already confirmed intra-uterine gestation along with fluid in the peritoneal cavity. She was also seen by a general surgeon who could not make a final diagnosis. Just a day before arrival at JPMC, the severity of abdominal pain intensified.

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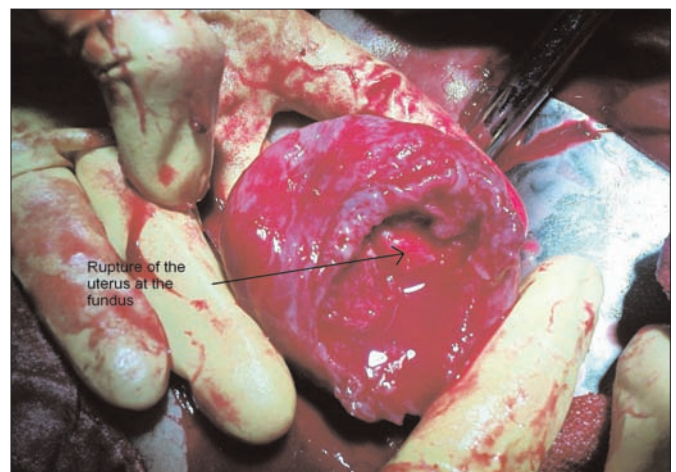
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On examination her pulse was 122 beats per minute, blood pressure was 80/40 mm of Hg and respiratory rate 15 breaths per minute. Abdomen was distended, tender and dull on percussion. Uterine size could not be clearly assessed. Fluid thrill was positive. Scan was repeated in labour room which confirmed an alive fetus of 17 weeks in the uterus and normal looking large amount of fluid/blood was seen in the peritoneal cavity. Under aseptic measures, ultrasound guided peritoneal tap was done, which showed collection of fresh blood. Emergency laparotomy was decided.

On opening the peritoneal cavity, about 2 liters of fresh and clotted blood was found. Uterus was about 18 weeks of gestation and approximately 3 cm of placenta was seen protruding from the fundus of the uterus (Figure 1). Gentle removal of the placenta resulted in opening of the uterine cavity and finally the expulsion of an alive fetus within the bag of membranes. Complete removal of the placenta and membranes was carried out



**Figure 1:** Peroperative view of the fundal rupture caused by placental encroachment.

digitally. Deficient myometrium was seen in areas where placental villi were seen adherent to the uterine wall. Hemorrhage was controlled rapidly by closure of the defect in the uterus in 2 layers with chromic catgut. Both ovaries and tubes were found healthy. Abdomen was closed in layers using the standard technique. Patient made a healthy recovery and was discharged on the fifth postoperative day. Stitches were removed on eighth postoperative day in the OPD. She was advised contraception for one year.

## DISCUSSION

Placenta percreta is abnormal adherence of the placenta to the uterine wall. Its incidence is increasing alarmingly in the developed as well as the under-developed world. It has high incidence of maternal morbidity and mortality. This life threatening condition requires urgent multidisciplinary approach as maternal mortality with placenta percreta due to hemorrhage can be as high as 10%. Approximately 25% of women with placenta previa and one previous cesarean delivery have an accreta/percreta.<sup>2</sup> A prospective study has shown a five fold increase in the incidence of placenta previa in patients with a uterine scar.<sup>1</sup> This condition is very rarely seen in primigravids without any previous uterine surgery.<sup>2,3</sup> Though risk factors like infection or endometritis have been reported in primigravida, but it can occur without any risk factors. The exact pathogenesis is unknown. The proposed hypothesis includes an imbalance between decidualization and trophoblast invasion.

Invasive placenta (incretta and percreta) can result in increased morbidity and mortality either due to placenta invading the bladder,<sup>4</sup> cervix or into the broad ligament,<sup>5</sup> resulting in massive hemorrhage or due to complications encountered during life saving surgery. Invasive placenta usually causes dehiscence of a previous uterine scar more commonly during labour, but rarely this may occur before labour starts in the second trimester. This case was primigravid with a silent rupture in early second trimester. Although most patients present in a state of shock with acute abdomen but this patient presented in a relatively stable condition.

Antenatal diagnosis of invading placenta is no longer a dilemma. Ultrasound and colour Doppler can detect placenta percreta as early as 14 weeks.<sup>6</sup> Placenta percreta can be diagnosed with gray-scale ultrasonography, where normal hypoechoic retro placental myometrial zone is either reduced or lost. Colour and pulsed Doppler will show a decreased value of diastolic flow in the invaded placenta. Both investigations are very helpful. A scoring system has also been derived to improve the accuracy of sonographic diagnosis in the detection of placental accreta.<sup>7</sup> However, MRI is a

superior investigation to diagnose the extent of myometrial invasion of placenta.<sup>8</sup> Biochemical markers like afetoprotein and creatine kinase have been linked with morbid adherence of the placenta.<sup>9</sup> All these above mentioned investigations help in critical decision making.

Treatment option for placenta percreta is usually hysterectomy but in cases where fertility is required hypogastric or internal iliac artery ligation is preferred. Administration of methotrexate is an upcoming option in relatively stable patients.<sup>10</sup>

Morbidly adherent placenta is a condition that is potentially lethal with a mortality rate ranging from 6-30%. It can cause loss of reproductive function. In this case, there was a silent uterine rupture in second trimester in the first pregnancy. Such unusual cases can be diagnosed antenatally with sensitive screening methods. Prenatal diagnosis of placenta accreta is of critical importance because it helps reduce fetal and maternal morbidity.

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