

## CASE REPORT

# Placenta Percreta: An Unusual Etiology for Spontaneous Rupture of Uterus Near Term

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## ABSTRACT

Uterine rupture is a life-threatening complication in pregnancy with an incidence of 0.07%, out of which 80% are spontaneous rupture. Placenta percreta is the rarest form of placental implantation abnormalities, with an incidence 1 in 2500 pregnant women.<sup>1,2</sup> Spontaneous uterine rupture due to placenta percreta is very rare, with an incidence of 1 in 4,366 pregnant women.<sup>3</sup> It often occurs in patients with a history of scar in the uterus.<sup>4</sup> Placenta percreta-induced spontaneous uterine rupture at term with previous lower segment cesarean section (LSCS) is difficult to diagnose. A 25-year-old pregnant woman, with history of one incomplete abortion treated by dilatation and curettage followed by a vaginal delivery with stillbirth and one LSCS again with stillbirth at term, was admitted in the emergency ward with history of approx 9 months amenorrhea, breathlessness, pain in abdomen (unable to lie down or even sit), vomiting and loss of fetal movements for last 24 hours. O/E: GC fair, afebrile, Pallor +++, pedal edema +, pulse 100/minutes regular, resp. rate; 40/minutes, thoracic, BP 110/70 mm Hg, lung fields clear with no abnormality detected in heart. On P/A: skin was stretched and a Pfannensteil scar healed by primary intention was present Abdomen tense, tender therefore fundal height could not be assessed. Fetal parts were not palpable and lie/presentation could not be made out. FHS were absent. On P/V; os closed with uneffaced cervix, presenting part could not be made out and was high. No bleeding or leaking per-vaginum was present. Hb 6.7 gm%, TLC 15600, DLC P90, L8, E2, M0. Ultrasound done on 27.5.12 (one month back) outside revealed 32.3 weeks gestation with normal scar thickness, placenta located in upper segment, grade I. No comment was made on the interface between placenta and myometrium in ultrasound report.

Patient was subjected to emergency laparotomy, massive hemoperitoneum was found. Examination of uterus revealed an intact previous scar. A full term male stillborn baby was delivered by uterine scar (LSCS) on 21.6.2012, at 10.30 pm The placenta could not be delivered as there was no plain of cleavage between placenta and myometrium. Uterus was exteriorized and to surprise there was a rent of about 3 × 2 cm at left cornua, placental tissue peeping out on removing the

clots. Subtotal hysterectomy was performed. Three units blood were transfused. Postoperative period was uneventful and the patient was discharged in satisfactory condition on 9th day. Histopathological examination of the uterine specimen revealed placenta percreta. To conclude uterine rupture should be considered in the differential diagnosis in pregnant women who present with acute abdomen with or without shock.

**Keywords:** Cesarean hysterectomy, Uterine rupture, Placenta percreta, Placenta previa.

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## INTRODUCTION

Over the past few decades, the incidences of placenta accreta, increta and percreta have increased. It is because of the increasing cesarean delivery rate. Fox (1972),<sup>5</sup> in a review of 622 cases, reported 1/3 had placenta previa, 1/4th had prior cesarean delivery, 1/4th had previously undergone curettage. For some times, it has been a leading cause of intractable postpartum hemorrhage requiring emergency postpartum hysterectomy.<sup>6</sup> Zaki et al (1998)<sup>7</sup> found that 10% of 112 consecutive cases of placenta previa had associated accreta. The American College of Obstetricians and Gynecologists (2002)<sup>1,2</sup> estimated that placenta accreta complicates 1 in 2500 deliveries. From their review, Stafford and Belfort (2008)<sup>8</sup> cite the incidence of app. 1 in 2500 in the 1980s, 1 in 535 in 2002, and 1:210 in 2006.

Morbidly adherent placenta is a grave complication of pregnancy with an overall reported incidence of 1:2500 deliveries<sup>2,3</sup> with an incidence of spontaneous uterine rupture 1 in 5,000 pregnant women.<sup>3</sup> In US, the incidence of uterine rupture is 1:1000-1:1500 deliveries. The spontaneous ruptures accounted for about 25% of the total, 17% of these occurred before the onset of labor and about 33% patients of rupture uterus required hysterectomy.<sup>9</sup> Women with previous cesarean sections, placenta previa and those with previous damage to uterine wall with history of surgical abortion are at greater risk for placenta percreta.<sup>10</sup> The spontaneous rupture of uterus before labor is extremely rare.<sup>8,11,12</sup>

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## CASE REPORT

A 25 years old, illiterate muslim woman belonging to poor socioeconomic status, was admitted in emergency with h/o amenorrhea of approx. Nine months, C/O: breathlessness, pain in abdomen (unable to lie down or even sit), vomiting and loss of fetal movements for 24 hours. M/H: Previous cycles were regular, of 3/30 days, LMP was not known, O/H: G4 P2 + 1A, L0, 1st D and C for incomplete abortion, 2nd term vaginal delivery at hospital with fresh still birth, 3rd term LSCS again still birth for nonprogress of labor. Past history and family history were not significant. O/E: GC fair, afebrile, pallor +++, pedal edema +, pulse 100/min, resp; 40/min thoracic, BP 110/70 mm Hg, lung fields clear, no abnormally detected on CVS examination. P/A: Pfannenstiel scar healed by primary intention was present. Abdomen tense and tender, fundal height could not be assessed, fetal parts not palpable, fetal heart sounds were absent, P/V: Cx os closed, uneffaced, presenting part high and could not be made out. No bleeding or leaking was found.

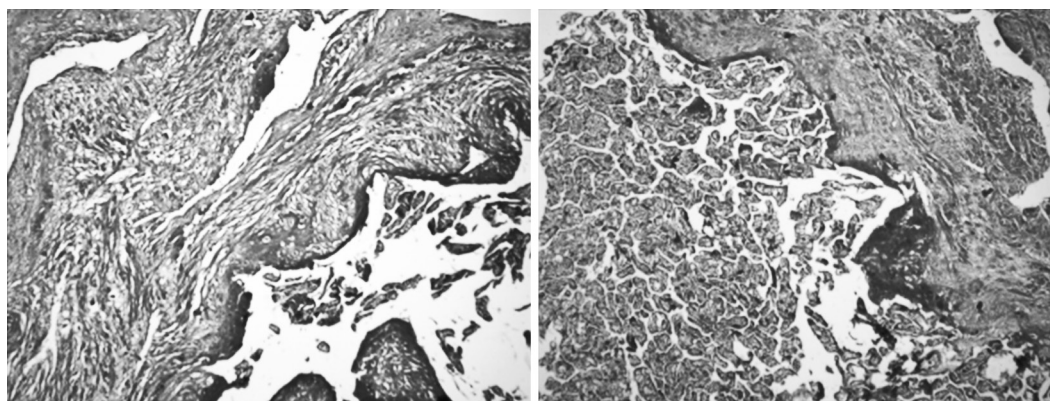
Investigations on 29.5.12 (1 month back) were Hb 10.8 gm, O +ve, random blood sugar 72 mg/dl, HIV, HBs Ag and HCV nonreactive, urine examination normal. USG dated 27.05.2012 reported 32.3 weeks gestation with live fetus, FHS 158/min, EFW; 2168 gm, mild hydramnios, placenta in upper segment, grade I placental maturity, scar thickness 9.4 mm and there was no comment about the interface between placenta and myometrium.

At the time of admission on 21.6.12: Hb 6.7 gm%, TLC 15600, DLC P90, L8, E2, M0. Emergency laparotomy was done, to surprise massive hemoperitoneum was found, dead male baby was delivered by LSCS, placenta could not be delivered as no plane of cleavage was detected between placenta and myometrium. Uterus was exteriorised and an irregular rent of approximately 3 × 2 cm with placental tissue peeping out was found on left cornua after removing the massive blood clots (Figs 1 and 2). Subtotal hysterectomy was done. Three units of blood were transfused. Postoperative period was uneventful and patient was discharged in satisfactory condition on 9th postoperative day. The histopathology confirmed the diagnosis of placenta percreta (Fig. 3).



**Fig. 1:** Peroperative picture of exteriorized uterus showing left cornual perforation through which placenta is peeping out

**Fig. 2:** Gross specimen removed after hysterectomy showing uterus with placenta in situ and blood clots in kidney trays



**Fig. 3:** Microscopic picture of histopathology in low and high power

## DISCUSSION

Rupture of the uterus due to placenta percreta is one of the most dreaded obstetrical catastrophes.<sup>12</sup> Placenta percreta is the rarest form of placental abnormalities, with a 5 to 7% incidence among all morbidly adhered placenta cases. In placenta percreta, the decidua basalis is partially or completely absent, and the chorionic villi invade the myometrium up to the serosa.<sup>11</sup>

The most common risk factor for uterine rupture is a history of cesarean section with an overall incidence of 1 in 4,366 and 1 in 304 in multigravidas with a previous cesarean section scar. Other risk factors include placenta previa, high parity, advanced maternal age, and history of endometriosis, dilatation and curettage, myomectomy or irradiation.<sup>3</sup> Although an uncommon occurrence, clinicians should consider placenta percreta in the gravid patient who presents with acute abdominal pain and shock before labor, the incidence is nearly 10% among women with placenta previa.<sup>13</sup> In this high-risk group, advanced maternal age and previous cesarean section are independent risk factors. This case had D and C and past LSCS as risk factors. Dahiya et al reported morbidly adhered placenta causing uterine rupture in second trimester of pregnancy after IVF in case in which hysteroscopic adhesiolysis was performed and there was no other risk factor.<sup>14</sup>

In the present case, the patient had history of incomplete abortion treated by dilatation and curettage and one cesarean section. Though she had one term vaginal delivery in between but myometrial injury sustained during D and C may be responsible and predisposed her for placenta percreta-induced uterine rupture. Uterine rupture caused by placenta percreta mainly occurs during the later period of pregnancy as seen in this case. In most cases of uterine ruptures that occur during delivery, the affected site is the lower uterine segment; however, in this case the site of uterine rupture is left cornua near fundus at the site of placental insertion and before labor, this again strengthen that D and C induced perforation was the cause for this condition.

Both MRI and ultrasound have poor predictive value in the diagnosis of placenta accrete and further refinement in the techniques of both MRI and ultrasound is needed for reliably diagnose this pathologic conditions. MRI had 38% sensitivity and ultrasound was reported to be 33% sensitive for detecting placenta accreta.<sup>15</sup> In this case also, the ultrasound did not reveal morbid placentation.

Conservative treatments for placenta accreta-induced uterine rupture, such as uterine curettage along with packing, adjuvant chemotherapy with selective arterial embolization, prophylactic uterine or hypogastric artery ligation with wedge resection of the ruptured uterine wall have been reported,<sup>12</sup> however, considering a four-fold mortality rate associated with these conservative treatments

as compared to hysterectomy, the latter is usually preferred in an emergent situation with spontaneous rupture.<sup>4</sup>

In general, the area of placenta percreta-induced uterine rupture exhibits more vascularization than the site of previous scar-induced rupture; therefore, uterine rupture caused by placenta percreta can be more dangerous than that caused by a previous scar. Obstetrical hysterectomy is considered safe in the case of life-threatening severe bleeding or insufficient hemostasis. Indication for emergency peripartum hysterectomy in recent years has added abnormal placentation to uterine atony.<sup>11</sup>

## CONCLUSION

This report highlights that uterine rupture should be considered in the differential diagnosis in pregnant women who present with acute abdomen and D and C should be thought as a cause in uterine rupture caused by placenta percreta. Therefore, D and C should be done with caution taking care not to curette over enthusiastically and not perforating the myometrium complete/incomplete.

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