CASE REPORT

Spontaneous Rupture of Uterus in a Primigravida at 26 weeks of Gestation with Placenta Previa and Percreta

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Received: 13 February 2016 / Accepted: 7 May 2016 / Published online: 8 June 2016
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Keywords Placenta accreta · Placenta percreta · Primigravida · Spontaneous uterine rupture · Classical cesarean section

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Introduction

Placenta previa is classified by the degree of encroachment upon the internal cervical os. In placenta accreta, the placental villi are attached directly into the myometrium, but do not invade it. In percreta, the villi penetrate the myometrium reaching up to the uterine serosa.

Case Presentation

A 30-year-old primigravida was registered at 8 weeks of gestation, and her first trimester ultrasonography (USG) showed single intrauterine gestational sac and 4 cm anterior wall fibroid. There was no history of any surgical procedures. USG at 12 weeks showed normal nuchal translucency with placenta previa. An anomaly scan done at 20 weeks of gestation reported placenta previa with

presence of multiple vascular lakes especially at the uterine fundus and there were no structural abnormalities in the fetus. The patient presented at 26 weeks of gestation with placenta previa complains of spotting per vaginum since 4 h. The patient's vitals were stable and on abdominal examination; uterus was corresponding to 26 weeks of gestation, relaxed, non-tender, with fetal heart rate of 140 beats per minute (bpm). On per speculum examination, there was minimal bleeding from cervical os. Hemoglobin was 11.2 g%, and platelets were 2.5 lac/cumm. Ultrasound showed single live intrauterine gestation of 26 weeks in transverse lie with left lateral placenta previa and multiple placental vascular lakes at fundus and no retroplacental blood collection. The patient was managed conservatively.

After 12 h, the patient complained of acute pain in upper abdomen and right shoulder. On examination, upper abdomen was tender, but there were no uterine contractions and vaginal bleeding. USG showed live fetus but free fluid in the peritoneal cavity. USG-guided abdominal tapping showed frank blood suggestive of hemoperitoneum.

Provisional diagnosis of ovarian cyst hematoma or torsion or acute surgical cause was suspected. The index of suspicion for rupture of uterus was low since there were no uterine contractions (Fig. 1).

On exploratory laparotomy, 1000 ml of hemoperitoneum was drained. The uterine fundus showed a 3-cm breach on the uterine serosal surface with active bleeding and sacculation on left uterine fundus with a leash of large blood vessels. The placenta was seen protruding from the site of uterine rupture suggestive of placenta percreta. The lower segment of uterus,

bilateral fallopian tubes, ovaries and rest of abdomen were normal. The fetus weighing 900 g was delivered by classical cesarean section. Apgar score at 5 min was 6/10. Wedge resection of the ruptured uterine wall along with placental tissue was done and closed with hemostatic sutures in two layers, and the remnant adherent placenta was left in situ. A 4 × 4 cm fibroid at left margin of the classical cesarean incision site was also removed. The total estimated blood loss was 2000 ml. The patient was transfused with six units of packed red blood cells and two units of fresh frozen plasma. The patient was hemodynamically stable postoperatively, and Inj. methotrexate 1 mg/kg was given on days 1, 3 and 5 and on follow-up showed decreasing β -HCG values. The baby in NICU developed massive pulmonary and intraventricular hemorrhage and expired on day 5 of life. The patient was discharged on 10th day post-op. Histopathology revealed the chorionic villi invading the entire myometrium supporting diagnosis of placenta percreta (Fig. 2).

The patient had moderate bleeding with passage of placental tissue for 6 weeks postpartum. After 8 weeks, the WBC count was 4600/cumm and USG showed 4.2 cm placental cotyledon attached at the left uterine fundus. Patient has been advised to follow up if there were high-grade fever, heavy vaginal bleeding or pain in lower abdomen. The patient had normal menses after 12 weeks post-delivery with moderate bleeding for 5 days. USG done 6 months later shows 2.3 cm echogenic foci at the

Fig. 1 Gravid uterus with placenta seen protruding from the site of uterine rupture

Fig. 2 Classical cesarean section and repair of uterine rupture

Fig. 3 Follow-up ultrasonography shows 2.5 cm echogenic foci in myometrium of uterine fundus

site of uterine rupture. Since the lady is asymptomatic, she desires to wait for spontaneous resorption of remnant placental tissue (Fig. 3).

Discussion

Placenta percreta is the most extreme form of placenta accreta with a 5–7 % incidence among all placenta accreta cases. Incidence of placenta accreta, increta and percreta varies from 1 in 540 to 1 in 93,000 with an average of 1 in 700 [1].

Pathologically, there is a defect of deciduas basalis and absence of Nitabuch's fibrinoid layer which results in penetration of villi into the myometrium (increta) or up to the serosa (percreta).

Risk factors for placenta accreta are placenta previa in the presence of uterine scar, increased maternal age, multiparity, prior uterine surgery or curettage, iatrogenic uterine perforation, manual removal of placenta, myomectomy and operative hysteroscopic procedures.

The classical USG signs are the absence of hypoechoic zone in between the placenta and myometrium, irregular echogenic area between serosa and bladder, interplacental lacunae in the accreta zone which gives a “Swiss cheese” or “moth-eaten” appearance [2].

Shih et al. [3] have reported that three-dimensional power Doppler signs had a sensitivity of 100 % and a specificity of 85 % when at least one of the three criteria was present, i.e., confluent vessels between bladder and uterine serosa, hypervascularity on lateral view and inseparable cotyledonal and intervillous circulations with chaotic appearance.

MRI provides accurate information on the degree of placental invasion, especially in posterior placenta.

Warshak et al. [4] reported a study of 453 women with risk factors for placenta accreta who underwent USG Doppler. MRI ruled out placenta accreta in 14 of the 16 Doppler ultrasound false-positive results.

Placenta accreta or percreta is usually diagnosed intra-operatively during cesarean section done for placenta previa. Placenta percreta may clinically present as acute abdomen pain or hemorrhagic shock or in vaginal delivery as non-separation of placenta, heavy vaginal bleeding and shock.

The management of placenta accreta is either cesarean hysterectomy or conservative treatment, i.e., leaving the placenta in the uterine cavity, and this decision is made intraoperatively based on the damage to the uterus, hemodynamic stability and desire for future childbearing.

Sentilhes et al. [5] studied 167 cases of placenta accreta treated conservatively at 40 hospitals which reported maternal morbidity rate of 6 % and one maternal death due to septic shock. The median time required for complete spontaneous resorption of placenta was 13.5 weeks (4–60 weeks).

Beherea et al. [6] reported a case of sudden death in a primigravida with 29 weeks of gestation due to uterine rupture.

Morken and Henriksen [7] reported two cases of placenta percreta which were managed conservatively and later had successful pregnancies.

Early diagnosis and prompt surgical treatment of uterine rupture and placenta percreta can reduce the maternal mortality risk. This case report suggests that as clinicians we must have a high index of suspicion in pregnant women with unusual symptoms with or without high risk factors.

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