

A CASE OF SILENT SPONTANEOUS UTERINE RUPTURE AT 27-28 WEEKS OF GESTATION, TWO PRIOR C- SECTIONS AND HISTORY OF UTERINE RUPTURE

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Abstract

Introduction. Silent spontaneous rupture of the uterus at the second trimester of gestation was very rare. In this case was accompanied by extrusion of an intact amniotic sac and normal fetal heart rate base line. Silent uterine rupture can be very difficult to diagnose, as the clinical features of uterine rupture, including abdominal pain, vaginal bleeding, maternal hypovolemic shock or hemorrhage, may be absent. Very few cases have been reported in literature.

Case Presentation. We report a case of silent spontaneous uterine rupture at 27-28 Weeks of Gestation. Patient had history of two prior cesarean sections with the last C-sections has uterine rupture. The residents were misdiagnosis silent spontaneous rupture with condition of dyspepsia. She underwent cesarean subtotal hysterectomy and delivered a live infant. She had a good postoperative recovery and was discharged on postoperative day 3.

Conclusion. Silent spontaneous rupture of the uterus at second trimester of gestation with extrusion of an intact amniotic sac is rare. For this case even there were no sign of acute abdomen and shock but only sign of dyspepsia. We have to think about the risk of Rupture uterine imminens. A high index of suspicion and good imaging during pregnancy are important in making this diagnosis.

Keywords: *uterine rupture, dyspepsia, cesarean hysterectomy*

1. Introduction

Spontaneous uterine rupture is an uncommon but potentially life-threatening obstetrical emergency for both mother and fetus. It occurs mostly during labor in the context of a previous uterine scar. Generally, uterine rupture refers to a complete separation of all uterine layers, including the uterine serosa, and this usually occurs most commonly in the setting of classical cesarean section.¹ Classical cesarean delivery entails a vertical incision involving the upper contractile portion of the uterus. In contemporary medicine, this type of incision is often reserved for preterm breech delivery or when lower uterine incision is deemed unfeasible or unsafe.² The reported frequency of classical cesarean delivery is 0.3% by the

Eunice Kennedy Shriver National Institute of Child Health and Human Development maternal Fetal Medicine Unit Network (NICHD MF MU) involving 320,000 births over a 4-year period.³ The incidence of uterine rupture varies depending on the type and location of the prior uterine incision. The American College of Obstetricians & Gynecologists (ACOG) Practice Bulletin reports a uterine rupture risk of 0.5 to 0.9 percent for women with prior cesarean undergoing trial of labor.⁴ However, the overall rate for uterine rupture with previous classical cesarean ranges from 0.6 to 12 percent as cited in the literature.^{4,5,6,7,8}

Severe maternal complications secondary to uterine rupture include hemorrhage, blood transfusion, and hysterectomy. The most severe complication of uterine rupture is maternal death, even though rare it occurs in approximately 1 in 500 uterine ruptures.⁹ While asymptomatic uterine dehiscence rarely results in adverse fetal outcome, complete uterine rupture with extrusion of placenta or the fetus can be catastrophic. The risk of perinatal death after uterine rupture was found to be 8.7% in a population-based cohort study in Netherlands, with perinatal mortality reported as ranging from 74% to 92% in less developed countries.¹⁰ Silent uterine rupture can be very difficult to diagnose, as the clinical features of uterine rupture, including abdominal pain, vaginal bleeding, maternal hypovolemic shock or hemorrhage, may be absent. Multiple studies have tried to develop prediction models for uterine rupture, including sonographic evaluation of uterine scar, but none has proven to be reliable especially for previous classical cesarean sections.¹

2. Case Presentation

We report a case of spontaneous uterine rupture, found at 27-28 weeks of gestation with delivery male infant with Apgar score 6/7 and birth weight 1000 grams. The patient had history of two prior lower uterine segment cesarean sections, the last C-sections with hysteroraphy due to uterine rupture in 2011 and 2014. The first previous pregnancy was complicated by severe preeclampsia and terminated by C-section. The second previous pregnancy terminated by C-section with complication uterine rupture and intra uterine fetal death. She was suggested to performed hysterectomy due to hypotonia but her family refused and didn't want to do tubectomy because her husband wanted to have a baby in the future, so the obgyn performed B-Lynch procedure and told to prevent the pregnancy before 2 years by family planning but the mother refused to use contraception. She became pregnant again after 16 months. Both of them worked as a nurse in hospital. She worked in intensive care unit and the husband in the emergency room. The obgyn has given the advice about the complication to her pregnancy about sign of uterine rupture, but they didn't clearly understand about that, even in the previous pregnancy she wanted to deliver in the midwife. The second pregnancy she came to midwife in the second stage of labor. After did the physical examination the midwife found the baby has death and suspicious for uterine rupture so she referred the mother to the hospital. At the hospital she was diagnosed with IUFD and uterine rupture.

She got ante natal care routinely in midwife and obgyn every month. From the last ultrasound, the pregnancy was at 27-28 weeks. She complained about pain when micturition. She told to the obgyn there were fever for last three days complicated by diarrhea. From the ultrasound the obgyn told the pregnancy was within normal limit and the baby was in good condition. The obgyn gave antibiotic for urinary tract infection and antipyretic. After 5 hours

from the obgyn health center she felt the pain in suprapubic more intense. So she came to our hospital emergency room at the midnight. From our examinations we found there was no acute abdomen. Slightly tenderness from epigastric quadrant. There were no pressure tenderness, rebound tenderness and defense musculature. She also had diarrhea from 3 days ago. She didn't use any medication for that. She told that she has checked the pregnancy to the obgyn, she felt fever and headache. She already took paracetamol. She didn't complain about shoulder pain. She also had nausea, vomitus and stomach ache. There were no signs of uterine contraction, bloody shows and water broke. Active fetal movement.

From our physical examination we found the blood pressure was 110/70 mmHg, pulse 90 bpm, respiratory rate 20 x/minute, temperature 36.6 Celsius degree. Pain in epigastric quadrant VAS 3 no acute abdominal pain. From abdominal auscultation we got hyperperistaltic, no metallic sound and over distended. Warm acral, no extremity edema.



Figure 1. Reassuring fetal status

In obstetric examinations fundal height 24 cm, positive Ballotement, head presentation, FHR: 140 bpm and no contraction. From the non stress test we didn't have any contraction and the result was reassuring fetal status (Figure 1). Ultrasound results conclude singleton live head presentation 27-28 weeks gestational age (WGA), Estimate Fetal Weight 1050 grams, Morrison's pouch and Douglas pouch no free fluid. The laboratory results haemoglobin 10.7 g/dl, leucocyte 10.100, Haematocrit 33.1 %, thrombocyte 227.000. According to resident examination, they diagnosed with dyspepsia on G3P2 27-28 wga singleton live head presentation. We gave Ringer Lactate 500 cc intravenous fluid for hydration and Sucralfate syrup for dyspepsia. We planned to observe this patient in the ward. After 5 hours in the emergency room the patient felt better, the chief complaint was improved. The patient wanted to discharge from hospital. The resident didn't permit so the patient signed the form for discharge at his own request. The resident gave advice if the abdominal pain recurred the patient must be admitted to the emergency room immediately.

After 12 hours at home the patient felt the abdominal pain more worstly. She decided to be admitted to the hospital. At

17.00 AM she arrive to emergency room with diffuse abdominal pain, stomach ache, epigastric quadrans tenderness. The abdomen felt overdistended continue with nausea and vomitus. The patient cannot supine, the tenderness decrease if she on semi fowler position. It's hard to exam the uterine contraction because the patient felt very painful when we palpate the abdomen, no bloody shows and water broke.

From physical examination we found the blood pressure was 100/60 mmHg, pulse 120 bpm, respiratory rate 21 x/minute, temperature 36,7 celsius degree. Pain in epigastric quadrant with acute abdominal pain VAS 6, pressure tenderness, rebound tenderness and defance musculare. From abdominal auscultation we got hypoperistaltic. Warm acral, no extremity edema. In obstetric examinations fundal height 24 cm, positive Balotement, head presentation, FHR: 150 bpm, no contraction. From The non stress test we didn't found any contraction and the result was reassuring fetal status. the resident has difficulty to perform ultrasound in this patient because the patient can not supine, so they can not exam completely. They conclude singleton live head presentation 27-28 weeks getational age (WGA), the laboratory results haemoglobin 7,8 g/dl, leucocyte 20.100, Haematocrit 24,1 %, thrombocyte 228.000. The resident diagnosed with acute abdominal pain suspect ileus paralytic on G3P2 27-28 wga singleton live head presentation with differential diagnose suspect uterine rupture and internal organ perforation.

The resident consult to surgery division. From surgery division they diagnose with abdominal discomfort differential diagnosed with suspect ileus paralytic and planned for

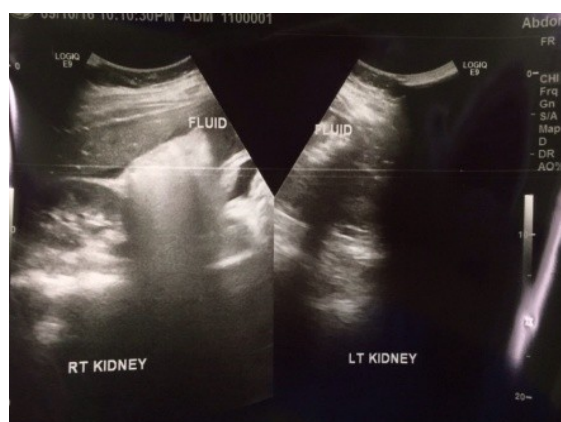


Figure 2. Free fluid at Morrison's Pouch

abdominal ultrasound from radiology division. Radiology FAST ultrasound conclude there was free fluid intra abdominal cavity in *Morrison's pouch* (Figure 2). From all examination The Obgyn resident diagnosed with acute

abdomen e.c. uterine rupture dd/ internal organ perforation on G3P2 27-28 wga singleton live head presentation. The resident planned to emergency laparotomy.

Upon entering the abdominal cavity via a Pfannenstiel skin incision, a complete uterine rupture was seen at the prior lower uterine segmen incisional scar, with vertical rupture to fundal with the amniotic sac protruding into the abdomen (Figure 3). Fetal parts were palpable through the protrudingmembrane active bleeding was noted 1000 cc. The fetus was found in head presentation and was delivered after amniotomy. Neonate's APGAR at 1 and 5 minutes were 6 and 7, respectively. Birthweight was 1000 g. Inspection of the uterus revealed that the uterine scar rupture occurred at previous lower uterine segment extended to the fundal (Figure 4).

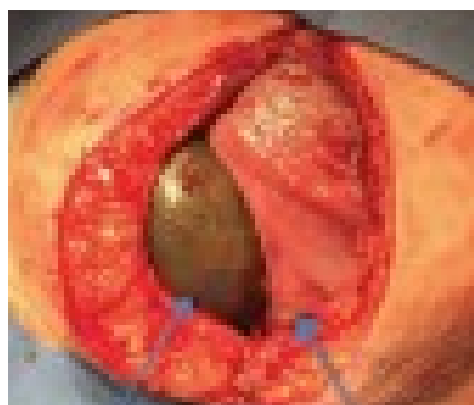


Figure 3. the amniotic sac protruding into the abdomen

The posterior lower uterine segment was very thin and we saw the previous B-lynch scar on the uterine. Uterine contraction was atonia, flabby and pale. Operator performed bimanual compression and administered the uterotonic but the contraction still in adequat. The obgyn decided to performed subtotal hysterectomy due to uterine atonia. Patient's recovery course was uncomplicated. Postoperative hemoglobin was 11.2 g/dL. The newborn admitted to the NICU for Respiratory Distress Syndrome and hyaline membrane disease. The baby died on day 3 in NICU. Patient has already discharged in good condition on postoperative day 3.

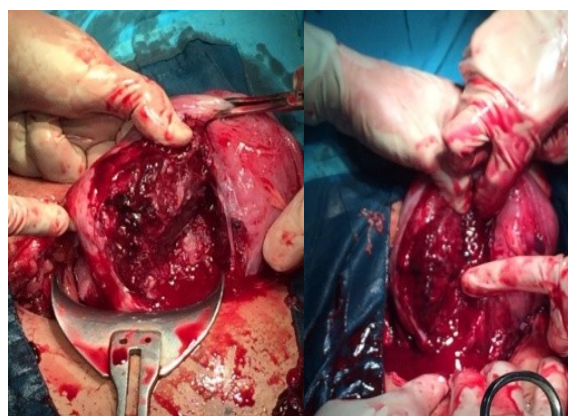


Figure 4.the uterine scar rupture

3. Discussion

A previous history of caesarean section is the most frequent cause of uterine rupture. Rupture due to previous uterine rupture has also been reported in patients with history of caesarean section but very rare in the first and second trimesters.⁴ The etiology is a deficient uterine muscle wall in cases with previous uterine rupture. One might argue that the presence of multiple risk factors (two previous C sections and previous uterine rupture) in our patient made this uterus prone to uterine rupture, nevertheless the site of rupture was at previous scar and the patient was not in labour. A history of dyspepsia and diarrhea and the decision of laparotomy was initially delayed due to this. Moreover, the diagnosis of rupture was not obvious on the first ultrasound examination. There may have been and unidentified perforation which lead to a scar and hence a weak area in the uterine musculature.⁷

Uterine rupture is a serious complication of pregnancy and can cause significant maternal and perinatal morbidity, with most cases occurring in the setting of classical cesarean section. Trial of labor after cesarean (TOLAC) has been associated with higher incidence of uterine rupture.⁷ However, in the case presented, patient had no signs of labor prior to delivery. She was asymptomatic, denying vaginal bleeding and abdominal pains. She has minimal abdominal discomfort and epigastric pain 1 days prior to uterine rupture, which maybe it was dyspepsia or early sign of spontaneous uterine rupture. Clinical features of uterine rupture may include abdominal pain, vaginal bleeding, maternal hypovolemic shock, or hemorrhage. From our case, we learned that uterine rupture may occur without any precipitating signs or symptoms. Our patient's history of previous c-section 2 times with the last C-section complicated by uterine rupture in the lower uterine segment, can also cause unspecific and unclear symptoms. It can be very difficult to predict individuals who would rupture their uterus in 27-28 Weeks gestational age. Recent studies have attempted to develop predictive models for uterine rupture. Bujold and colleagues developed 2 such indexes using antepartum and intrapartum factors.⁹ However, both models were neither sensitive nor specific enough for clinical use (sensitivity of 75% with false positive rate of 40%). Grobman and colleagues also developed a model to estimate specific risk of uterine rupture during trial of labor. However, the empiric probability risk of rupture derived from a wide 95%CI ranging from 0.6 to 1.8%, making this model neither accurate nor discriminating.¹⁰ Ultrasonography has been studied to predict uterine rupture. Bujold and colleagues conducted a prospective cohort study of 125

women with previous cesarean undergoing trial of labor. Their analysis determined that optimal cutoff is a lower uterine thickness of <2.3mm, with the rate of uterine rupture being 9.1% for this group.⁹ The limitation of this study includes the fact that most women with a lower uterine thickness <2.0mm did not undergo trial of labor. This might suggest an established practice pattern which might limit future studies using ultrasound to predict uterine rupture. For our case, the patient had multiple ultrasound studies done for growth and biophysical profiles. However, none were specifically looking for the lower uterine segment. Due to her history of previous c-section 2 times with the last C-section complicated by uterine rupture in the lower uterine segment, for 27-28 weeks measuring the lower uterine segment might not have been adequate to evaluate uterine thickness anyway. Review of all ultrasound images in our patient revealed no abnormality. Despite previously quoted high rate of perinatal mortality, studies done in the United States revealed much lower perinatal death rate of 0.3 per 1000 trials of labor.² The lower rate of perinatal death might be due to rapid recognition of and response to potential uterine ruptures.

4. Conclusion

Cases of spontaneous uterine rupture during 27-28 weeks gestational age have been reported in association with previous uterine rupture. This case is a rare presentation in second trimester in a non-labouring patient. The main lesson learnt from this case is that the possibility of a potential uterine rupture should always be kept in mind when a gravid woman presents with acute abdominal pain and signs of shock. For this case even there were no sign of acute abdomen and signs of shock only sign of dyspepsia, we have to think about the risk of Rupture uterine imminens. This case report emphasizes that spontaneous uterine rupture can occur without symptoms in pregnancy. A high index of suspicion and proper imaging are therefore needed in making this diagnosis.

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