THIRD-TRIMESTER SPONTANEOUS RUPTURE OF AN UNSCARRED UTERUS WITH MASSIVE INTRA-ABDOMINAL HEMORRHAGE DURING TOCOLYSIS IN A PREGNANT WOMAN WHO HAS HAD MULTIPLE INSTRUMENTAL ABORTIONS

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SUMMARY

Objective: Uterine rupture is a rare and catastrophic event. We present a case of spontaneous rupture in an unscarred uterus with massive internal bleeding during tocolysis in the third trimester.

Case Report: A 31-year-old woman, gravida 5, para 2, was admitted to our hospital at 32 weeks of gestation because of lower abdominal pain, fever, and chills. She had no history of gynecologic surgery except for two suctional dilatation and curettage procedures because of intrauterine fetal death. Her husband was a balanced reciprocal translocation carrier. On admission, cardiotocography (CTG) showed irregular uterine contractions, and an intravenous beta-sympathomimetic agent was given along with antibiotics. Following the medication, maternal tachycardia was observed without any obvious change in blood pressure. One hour after the treatment, however, CTG showed persistent moderate variable decelerations of fetal heart beats and a decrease in maternal blood pressure. Emergency cesarean section was performed under the impression of acute fetal distress. A 1 cm laceration over the left uterine cornus was noted, with active bleeding and hemoperitoneum of 1,500 mL. A male baby weighing 2,250 g was delivered; his Apgar scores at 1 and 5 minutes were 1 and 5, respectively. Primary repair of the uterus was performed. The postoperative course was uneventful. The infant was doing well at age 2 months.

Conclusions: The present case provides evidence that spontaneous rupture of an unscarred uterus may occur during tocolytic management in the third trimester in pregnant women with a history of multiple instrumental abortions. We suggest that the feto-maternal condition be closely monitored during tocolytic management of such patients. Any change in the vital signs of the mother as well as the fetus should alert one to the possibility of spontaneous uterine rupture. [Taiwanese J Obstet Gynecol 2004;43(3):172–174]

Key Words: dilatation and curettage, intra-abdominal hemorrhage, multiple instrumental abortions, spontaneous uterine rupture, unscarred uterus

Introduction

Spontaneous uterine rupture during labor is a well-documented obstetric complication and is often associated with high feto-maternal mortality. Risk factors for intrapartum spontaneous uterine rupture include previous uterine surgery, grand parity, malpresentation,
multiples of instrumental abortions. Among these, previous cesarean section is the most common factor. Rupture of an unscarred and non-laboring uterus without obvious risk factors is rare. We present the case of a third-trimester spontaneous rupture of an unscarred uterus with massive intra-abdominal hemorrhage during tocolysis in a pregnant woman who has had multiple instrumental abortions.

Case Report

A 31-year-old woman, gravida 5, para 2, presented at 32 weeks’ gestation with lower abdominal pain, fever, and chills. The cervix was dilated 2 cm, the fetal head was at station –1, and cardiotocography (CTG) showed irregular uterine contractions. Ultrasonography showed a singleton with normal biometry consistent with the gestational age and a cephalic presentation, adequate amniotic fluid, and normal placenta. She was admitted because of premature uterine contractions and suspected chorioamnionitis. An intravenous beta-sympathomimetic agent, ritodrin, was given along with antibiotics. She had previously given birth to a malformed baby with an unbalanced chromosomal translocation inherited from the father. The father’s karyotype was 46,XY, t(4;7)(p10,q10). In another pregnancy, a Down syndrome fetus was detected by genetic amniocentesis because of the appearance of leukocytosis. A horizontal tear above the insertion of the uterosacral ligament. deRoux et al presented a case of fatal hemoperitoneum and spontaneous uterine rupture caused by placenta percreta [7]. The patient had undergone curettage six times for abortions and miscarriages. She presented with abdominal pain of several days’ duration and died of cardiovascular collapse. Our patient did not have any history of gynecologic surgery except for two suctional D&Cs. It was likely that these resulted in an undiagnosed uterine perforation or weakness.

During tocolytic management in this pregnancy, maternal tachycardia was observed without any obvious change in blood pressure. Chorioamnionitis was suspected because of the appearance of leukocytosis. Tocolytic management was interrupted, after which the patient complained of abdominal distension and dyspnea. Repeat transabdominal sonography did not detect any remarkable finding except for some subphrenic fluid. Initially, vital signs in both the mother and fetus were stable but, 1 hour later, persistent moderate variable decelerations of fetal heart beats and a decrease in maternal blood pressure occurred. The cervix was dilated 3 cm and the station of the fetal head was –1. An emergency cesarean section was performed under the impression of acute fetal distress. A hemoperitoneum of 1,500 mL and a laceration about 1 cm in length over the left cornus, with active bleeding, were noted. A male baby weighing 2,250 g was delivered with Apgar scores of 1 and 5 at 1 and 5 minutes, respectively. Primary repair of the uterus was performed. The postoperative course was uneventful. The infant did well and was discharged home 2 months later.

Discussion

Rupture of a gravid uterus is an unpredictable and catastrophic complication. It is usually encountered in the scarred uterus [2]. Rupture in an unscarred uterus is relatively rare and always occurs intrapartum [3]. The reported incidences of spontaneous rupture of the unscarred uterus range from 1 in 8,000 to 1 in 15,000 deliveries [4]. Rupture of the unscarred uterus is associated with fetal or uterine anomalies, endometriosis, injudicious oxytocin stimulation, abnormal placentation, macrosomic infants, advanced maternal age, and grand parity [4–6].

Spontaneous uterine rupture in the unscarred uterus may occur in a non-laboring uterus without any risk factor. Langton et al reported a case of spontaneous uterine rupture that occurred at 32 weeks’ gestation in a non-laboring uterus without previous risk factors [3]. Their patient presented with sudden onset of right abdominal pain and unstable vital signs. She had not undergone any gynecologic surgery and her antenatal care was uneventful. Emergency laparotomy revealed a vertical tear above the insertion of the uterosacral ligament. deRoux et al presented a case of fatal hemoperitoneum and spontaneous uterine rupture caused by placenta percreta [7]. The patient had undergone curettage six times for abortions and miscarriages. She presented with abdominal pain of several days’ duration and died of cardiovascular collapse. Our patient did not have any history of gynecologic surgery except for two suctional D&Cs. It was likely that these resulted in an undiagnosed uterine perforation or weakness, and the weakened area was further stressed by this pregnancy. This provides further evidence that a history of multiple instrumental abortions adds to the list of risk factors for spontaneous uterine rupture.

The diagnosis of spontaneous uterine rupture is not always easy due to lack of specific symptoms and signs. Saglamtas et al reported that the most common symptoms in patients with uterine rupture were tachycardia, hypotension, uterine bleeding, abdominal pain or tenderness, absence of fetal heart sounds, and abnormalities of various severity on fetal monitoring [8]. In the present case, maternal tachycardia was obscured by the effect of a beta-sympathomimetic agent. However, recent reports suggest that ultrasonography is useful in antenatal diagnosis of spontaneous uterine rupture. The reported sonographic findings include extraperi-
tonal hematoma, intrauterine blood, free peritoneal blood, an empty uterus, a gestational sac above the uterus, and a large uterine mass with gas bubbles [9]. Our case also had sonographic evidence of subphrenic fluid accumulation implying possible uterine rupture, but this finding was ignored. Accurate diagnosis of spontaneous uterine rupture may be hampered by an enlarged uterus, inexperienced practitioners, a scanty amount of internal bleeding, obscure symptoms, and the uncertainty of sonographic diagnosis.

In conclusion, we have presented a rare case of spontaneous uterine rupture of an unscarred uterus. Our case shows that spontaneous rupture of an unscarred uterus may occur during tocolytic management in the third trimester in pregnant women with a history of multiple instrumental abortions. We suggest that the feto-maternal condition be closely monitored, especially during tocolytic management of such patients, because the use of beta-sympathomimetic agents may mask the warning of maternal tachycardia in uterine rupture. Any change in the vital signs of the mother as well as the fetus should alert one to the possibility of spontaneous uterine rupture. Close observation of the maternal and fetal condition as well as detailed ultrasound examination are the keys to optimal maternal and perinatal outcomes.

References