Uterine Rupture Following a Fall: an Atypical Presentation in a Gravida 2 Patient

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Abstract

It's easy to miss diagnosis of insidious onset uterine rupture in a pregnant woman without obvious risk factors. This can impair timely management with increased fetal and maternal mortality. We present such an unusual encounter which otherwise in the absence of suspicious hand could have easily resulted in maternal demise.

Uterine Rupture Following a Fall: an Atypical Presentation in a Gravida 2 Patient

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Abstract

It is easy to miss a diagnosis of an insidious onset uterine rupture in a pregnant woman without any obvious risk factors. This can impair timely diagnosis and management with increased risk of fetal and maternal morbidity and mortality. Here we present such an unusual encounter which otherwise in the absence of a suspicious hand could have easily resulted in maternal demise.

Key words: Uterine rupture, previous uterine scar, maternal morbidity, maternal mortality, fetal mortality.

Key clinical message

Insidious onset symptoms and physical findings in a pregnant woman with uterine rupture may appear bizarre unless the possibility is keenly kept in mind.

Introduction

Uterine rupture in pregnancy is a deadly obstetric complication with high incidence of maternal and fetal morbidity and mortality (1). Case fatality rate for uterine rupture is as high as 30.4% (2)**.**Besides being a global problem, the overall incidence of uterine rupture is higher in developing countries (3,4). In one of the studies by Gebretsadik et al. (5), poor maternal outcome occurred in 67.7% of the women with 96.7% stillbirths. Whereas most of the incidents occur during labour (6,7), a few cases particularly following previous cesarean delivery during the third trimester before onset of contractions have been reported. Uterine rupture in a woman with no any previous uterine scar in early third trimester without any contractions is therefore extremely rare. Here we present such an unusual encounter which otherwise in the absence of a suspicious hand could easily have been missed.

Case presentation

A 22 year old gravida 2 para 1+0 at 31 weeks and 2 days of amenorrhea presented with abdominal pain for about six hours. This was a constant moderaterately severe generalized throbby abdominal pain that started gradually and progressively increased in intensity over the hours, aggravated by movement but slightly relieved by lying in bed. This followed a fall off a stool while hanging her clothes on a wire in the backyard. Patient reported no fetal movements since the incident, however no associated per vaginal bleeding and no loss of consciousness. Patient visited an ultrasound scan unit in one of the nearby health facilities about an hour following the fall particularly for an ultrasound scan assessment of the status of her pregnancy; driven by a fear that the fall could have affected it. The scan showed two live diamniotic monochorionic fetii in cephalic presentation. The leading fetus showed reduced cardiac activity of 118 beats per minute. The other twin had a normal fetal heart rate of 139 beats per minutes. Estimated fetal weight of the first twin was 2.4 Kg while the second one was 2.18 Kg. All fetal organs and abdominal wall were intact, normal cord attachment for each fetus, and normal limbs. The placenta was anterior and not low lying, with no signs of detachment. Cervical os was closed with adequate amniotic liquor for age in both sacs. Mother reportedly left back for home where she had a rest for about three hours but however the abdominal pain gradually increased. Patient had no any previous surgeries and the previous pregnancy was uneventful about four years prior to the presenting pregnancy. At the time of arrival on our facility (at the nurse's triage point), she had mild abdominal pain. All her vitals were normal; particularly, her pulse rate and blood pressure were 76 beats per minute and 135/70 MmHg respectively with axillary temperature of 36.4^0C and respiratory rate of 18 breaths per minute; all measured by a senior nurse on duty. But however after a period of about one hour, patient's pain intensified and was brought to the doctor's review point. On our prompt examination, she was a bit weak, in severe pain, with severe pallor; axillary temperature 36.1°C. Per abdominal examination revealed severe generalized abdominal tenderness, fundal height was 37/40; no fetal heart heard using a pinnard stethoscope. Speculum examination showed no any per vaginal bleeding with a closed external cervical orifice. Cold extremities, a bounding pulse of 136 beats per minute, and blood pressure of 72/44 MmHg were noted on cardiovascular system examination. She was fully awake, GCS 15/15. Respiratory system examination revealed mild distress, respiratory rate 28 breaths per minute, normal breath sounds. Rest of the systems was generally unremarkable. An emergency laporatomy was done in view of a tense abdomen and unexplained severe pallor with signs of shock. Under general anesthesia, we opened her abdomen in layers via a sub umbilical midline incision. We found a hemoperitoneum of about 1.5 liters and two floating fetuses within the abdomen. These were both male fresh still births 1.8 Kg and 1.2 Kg for the first and second twins respectively. A ruptured posterior lower uterine segment of about 6.5 x 3 cm with ischemic-necrotic margins was noted which was repaired and hemostasis achieved. Further exploration of the uterus was done and noted intact. All the other maternal abdominal and pelvic organs were normal. Patient was transfused with three units of whole blood and improved postoperatively on intravenous injections of ceftriaxone and metronidazole plus intramuscular injections of tramadol, fluid therapy alongside close monitoring of her vitals and surgical site wound care. Patient was discharged on her fifth post operative day in good condition.

Discussion

Uterine rupture is a breach in the uterine wall with subsequent loss of its integrity either during pregnancy, delivery or immediately after delivery (8). There is usually full-thickness disruption of the uterine muscle and overlying serosa thus resulting in a direct connection between the peritoneal space and the uterine cavity with or without protrusion or expulsion of the fetus and/or placenta into the peritoneal cavity (9). It typically occurs during labour and can extend to affect the bladder or broad ligament. The rupture may be either spontaneous, traumatic or as a result of previous scar dehiscence. It is classified as either complete or incomplete based on whether or not all layers of the uterine wall are involved. In incomplete uterine rupture, the uterine muscle has separated but the visceral peritoneum overlying the uterus is intact. In this case, the uterine contents remain within the uterus. This type of uterine rupture is also commonly referred to as uterine dehiscence (10). Complete uterine rupture is a more severe form of uterine rupture where all layers of the uterine wall have separated; that is, the peritoneum is also torn, and the uterine contents usually have

escaped into the peritoneal cavity. Obviously, the morbidity and mortality are appreciably greater with this type of uterine rupture.

By simply hearing about uterine rupture, one would think it is obvious that the patient will manifest with overt symptoms and signs. Most times, it is a sudden onset progressively worsening abdominal pain and features of hemodynamic instability. This however may not be the case in some patients. We have described an atypical manifestation of a posterior wall uterine rupture of a 22 year old gravida 2 para 1+0 at 31 weeks and 2 days of gestation which could easily have been missed. For instance, whereas most uterine ruptures present with per vaginal bleeding (11), this case had not such a manifestation. The obstetric ultrasound scan which had been done a few hours following the fall prior to the patient's arrival in the hospital made it more unpredictable too. Besides the slight reduction in fetal heart rate in one of the twins of 118 beats per minute, all the rest of the parameters including placental attachment were normal. It is likely that the process of uterine wall disruption was not immediate. This must have been a gradual process of separation of the uterine layers. Why the posterior wall and not the anterior one with which direct force was reportedly exerted unto during the fall in this particular case remains a puzzle to us. Our patient had a history of uneventful previous vaginal delivery about four years prior to admission. Both gynecological and surgical histories were unremarkable. The only risk factor in this patient was the multifetal status. However, the weight of both fetuses after delivery was only 3.0 Kg. Moreover, inclusive of hemoperitoneum, her abdominal girth circumference was not scary. Nevertheless, three important clinical findings looked peculiar: These were unexplained severe pallor of the mucous membranes with signs of shock (which made us suspect concealed hemorrhage, attributable to either placental abruption or uterine rupture), abdominal tenderness and the absence of fetal cardiac beats. Whereas on arrival the patient's pulse rate and blood pressure were normal, the rapid shift in these vital signs to 136 beats per minute and 72/44 MmHg respectively made our impression most likely. Indeed, our prompt intervention that involved immediate resuscitation and emergency laporatomy saved this woman's life. We noted similar sporadic reports of relatively similar cases by Gu'eye et al. (12), Cecchini et al. (13), as well as Halassy, Eastwood and Prezzato (14). Although we notice in all these cases that abdominal pain (no matter the severity) coupled with deranged fetal cardiac activity remain the two most important clinical manifestations. Therefore, a high index of suspicion for uterine rupture in any pregnant woman presenting with abdominal pain no matter the severity and/or nature of onset of the pain and impaired fetal cardiac function are key towards timely diagnosis and intervention if we are to reduce uterine rupture associated maternal and fetal morbidity and mortality.

Conclusion

Insidious onset symptoms and physical findings in a woman with uterine rupture may appear bizarre unless the possibility is keenly kept in mind.

Conflict of interest

We declare no potential conflicts of interest with respect to authorship and/or publication of this case report

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Author contributions

SB was involved in case management, acquisition of data and drafting the manuscript. RS participated in literature search and revision of the manuscript.

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