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Case Report

A rare case of posterior wall uterovaginal rupture in a primigravida: points to ponder in a peripheral set up

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ABSTRACT

Rupture of uterus in a primigravida lady is extremely rare and in most cases it is unalarmed or totally unexpected. The incidence of uterine rupture in general (primigravida or multigravida) is significantly higher in developing countries than in developed countries. Here we present a healthy 24-year-old primigravid woman presented in labor at 39 weeks of gestation with no known comorbidity. She had no significant past medical history and her antenatal care had been uneventful. Intraoperatively the patient was found to have posterior utero-vaginal tear which was repaired subsequently. This case of primigravida, is a rare one and important points to ponder in a periphery setup are discussed here.

Keywords: Posterior wall, Uterovaginal rupture, Primigravida

INTRODUCTION

Uterine rupture in a pregnant lady is an uncommon but severe obstetrical affair, which is associated with high perinatal and maternal morbidity and mortality.^{1,2} It occurs mostly secondary to a previous caesarean section (the “scarred uterus”), making it as a major risk factor with an incidence of around 1%.^{1,2} The estimated incidence of a rupture of the unscarred uterus is 1/8000 to 15,000 deliveries or, as investigated by the World Health Organization (WHO), 0.006%.^{3,4}

Rupture of uterus in a primigravida lady is extremely rare and in most cases it is unalarmed or totally unexpected. The incidence of uterine rupture in general (primigravida or multigravida) is significantly higher in developing countries than in developed countries caused by neglected/unattended or worse antenatal and obstetric care (caused by delay in caesarean section in case of prolonged or obstructed labor), high frequency of non-institution or home deliveries with prolonged and neglected labor, and grand multiparity.^{1,5}

CASE REPORT

A healthy 24-year-old primigravid woman presented in labor at 39 weeks of gestation with no known comorbidity. She had no significant past medical history and her antenatal care had been uneventful. During admission, our patient was clinically and biochemically stable and cardiocotogram showed a reassuring fetal heart rate pattern. At the time of admission, the estimated weight of the fetus was around 3.5 kg with normal umbilical artery Doppler screening (latest USG)

On clinical examination, she looked pale with a blood pressure of 125/75 mmHg, a pulse of 78 beats per minute (bpm), a temperature of 37.4 °C, and a normal respiratory rate. On first physical examination her abdomen was soft but with slight tenderness in the lower abdomen. Ultrasonic evaluation showed a viable fetus with good movements. A vaginal examination revealed a cervical dilatation of 3 cm with 50% effacement, cephalic presentation and no vaginal bleeding. Our patient progressed comfortably according to partogram.

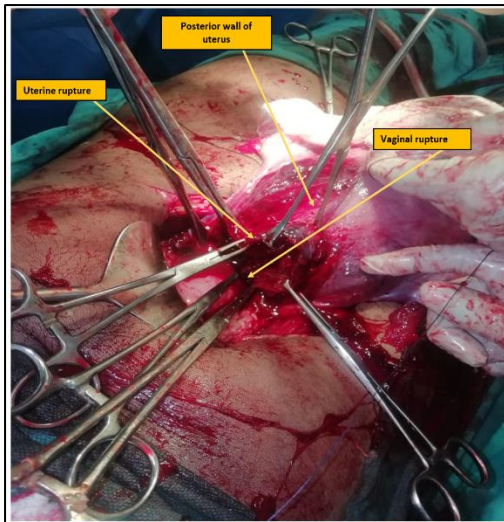


Figure 1: Repair of posterior utero-vaginal tear in progress.

Suddenly she complained of severe pain abdomen fluctuating in nature. She remained hemodynamically stable. Nursing staff on duty noticed fetal heart dipping to 80-90/bpm and not coming up. Per vaginal examination revealed mild bleeding and a cervical dilatation of 7-8 cm with head station at -2. An emergency caesarean was performed keeping in mind the possibility of an abruption. Lower section CS was done as per protocol and live male baby delivered with good cry. Uterine incision was closed in 2 layers. After closure of uterus while cleaning Pouch of Douglas (POD) a big rent in posterior wall of uterus was discovered (Figure 1) in the lower part and its end was not visible due to blood collection in the POD. The gynae surgeon started to suture the rent but its lower end was not visible, possibly it was deep down in the POD. Then he decided to repair it with vaginal approach. The position of the patient was changed to lithotomy position and vaginal examination revealed a big vaginal rent (posterior wall) continuous above with the lower end of uterus. The ruptured vagina was sutured vaginally but its upper end was not localized due to continuous bleeding from above. At that moment an idea came to surgeon's mind and the suture's end was pushed inside abdomen (POD) from vaginal end. The patient's position was again changed to supine and the thread which was pushed from vagina was pulled and sutured abdominally localizing the extent of rupture). The tear was 5 cm long. Blood and clots were removed. Syntocinon (oxytocin) was administered intravenously. There was an estimated total blood loss of 2000 cc. Three units of whole blood were transfused.

Post-operatively, patient developed gaseous distension of abdomen possibly due to an ileus, which was treated conservatively and fever, may be due to infection at the repaired site at the dorsum of the uterus and also compromised sterility in peripheral set up. It was treated with antibiotics with a good response and after 10 days she was sent home. She was strongly counselled not to conceive again. In the case of an unwanted pregnancy or

planned pregnancy whatsoever, careful monitoring and an elective caesarean section were advised.

DISCUSSION

Timely management of uterine rupture depends on prompt diagnosis and detection. In the past, clinicians and paramedics were taught to look for classic signs such as sudden tearing uterine pain, vaginal bleeding, cessation of uterine contractions, and loss of the fetal station and regression.^{6,7} Recent experience has shown that these signs are unreliable and often absent.⁶ Instead, now fetal distress has been found to be the most dependable and consistent presenting clinical symptom.^{6,8}

Results of one study of 99 ruptures showed that only 11 had vaginal bleeding and 13 patients reported pain and prolonged, late, or variable decelerations and bradycardia seen on fetal heart rate monitoring are the most common—and most of the time the only—manifestations of uterine rupture.⁶⁻⁸ Furthermore, uterine contraction patterns are untrustworthy and variable for detecting rupture and appear normal at the time of examination. Even intrauterine pressure monitoring fail to show a loss of uterine tone or contractile pattern, most of the time, after uterine rupture.¹⁰⁻¹²

The life-threatening seriousness of uterine rupture is accentuated by the fact that during rupture patients have shown a loss exceeding 1.5 – 2 litre in around 50% of the cases and a majority of women requiring blood replacement hysterectomy, with accompanying loss of fetus and future childbearing capability.^{7,8,13} To control maternal hemorrhage, hysterectomy is also required.^{6,7,14} Rate of complication is more common in peripheral hospital, delivery outside hospital and in women with an unscarred uterus.^{6,15,16} 5% of the maternal deaths can be attributed to uterine rupture in a calendar year.¹⁶

Neonatal outcome after uterine rupture depends largely on the time interval between the catastrophic event and incision. Newborn morbidity and mortality can be substantial in any bigger centers. Though many of the more recent studies suggests very less fetal deaths.^{9,15,17} The complication rate increases when fetus is expelled in the peritoneal cavity and there is loss of increase amount of blood.^{6,16,17} Although in our case the fetus was saved and required admission to a neonatal intensive care unit for few days and, possibly, respiratory support.

Physicians are also advised to train their staff accordingly and give them strict and proper instructions regarding how to handle labor cases with extreme degree of vigilance mainly at a peripheral set up with deficient staff and limited resource settings. Guidelines published by American College of Obstetricians and Gynecologists (ACOG) indicate that trials of labor for Vaginal birth after cesarean (VBAC) should be carried out “in institutions equipped to respond to emergencies ...” and that there should be a “physician immediately available throughout

active labor capable of monitoring labor and performing an emergency cesarean delivery.”¹⁸ Management of these cases in peripheral hospital like ours becomes problematic if blood banks, a surgeon, anesthesia, an operating room team, and neonatal support are not available at all times.

CONCLUSION

Uterine rupture when it occurs in a primigravida without alarming sign and symptoms at a peripheral set up then it can lead to disaster if not managed promptly and wisely. Measures aimed at reducing the high maternal and perinatal mortality and morbidity associated with uterine rupture include prior identification of risk factors antenatally, prudent and sensible screening of cases, proper antenatal care, health education of the masses, early referral of at-risk patients, and supervised hospital delivery. Importance should be given to the any change in (non-re-assuring) fetal cardiac activity and pain symptoms that can guide the diagnosis especially in a primigravida woman with no particular history. During a labor, continuous fetal heart rate monitoring is crucial because this can be the only indication of an impending or imminent rupture. Patients should be instructed to report promptly to the hospital when pain starts and labor should not be left unmonitored at any point of time whether in a multi-specialty hospital or peripheral health setup.

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