

Rupture of primigravid uterus and recurrent rupture— a case reportNahreen Akhtar¹, Tabassum Parveen¹, Syeda Sayeeda², Firoza Begum³¹Associate Professor, Fetomaternal Medicine Wing, Department of Obs & Gynae, BSMMU, ²Associate Professor, Department of Obs & Gynae, BSMMU, ³Professor, Fetomaternal Medicine Wing, Department of Obs & Gynae, BSMMU**Abstract:**

Uterine rupture is a deadly obstetrical emergency endangering the life of both mother and fetus. In Bangladesh majority of deliveries are attended by unskilled traditional birth attendant and maternal mortality is still quite high. It is rare in developed country but unfortunately it is common in a developing country like Bangladesh. We report a case history of a patient age 32yrs from Daudkandi, Comilla admitted with H/O previous two rupture uterus and repair with no living issue. We did caesarean section at her 31⁺wks of pregnancy when she developed labour pain. A baby of 1.4kg was delivered. During cesarean section, focal rupture was noted in previous scar of rupture. Unfortunately the baby expired in neonatal ICU after 36 hrs.

Key Words: Recurrent rupture uterus, rupture uterus in primigravida*[BSMMU J 2013 ; 6 (2) : 168-171]***Introduction:**

Uterine rupture is a tear in the wall of the uterus, most often at the site of a previous C-section incision. In a complete rupture, the tear goes through all the layers of the uterine wall and consequences can be dire for mother and baby. The main cause of the rupture of unscarred uterus is traumatic rupture or spontaneous rupture in obstructed labour. The vast majority of uterine ruptures occur during labor, but they can also happen during pregnancy. The first sign of a rupture is usually an abnormality in the baby's heart rate. Ninety percent of uterine ruptures happen at the site of a previous c-section scar and ruptures are most likely to occur during labor. It is possible for an unscarred uterus to rupture, but that happens in less than 1 in 15,000 pregnancies, almost always during labor.¹ Risk factors include having had five or more children, a placenta that's implanted too deeply into the uterine wall, an over distended uterus (from too much amniotic fluid or carrying twins or more), contractions that are too frequent and forceful (whether spontaneous or from medication such as oxytocin or prostaglandins, or as

the result of a placental abruption), and a prolonged labor with a baby that's too big for the mother's pelvis because a scar is more likely to give way under the stress of contractions. The damage to the uterus is sometimes beyond repair and hysterectomy is often required. Those who undergo uterine repair are potentially fertile but recurrence risk is high. The prevalence of uterine rupture varies from country to country. It is found that it is more prevalent in developing countries than in developed countries.² According to UNFPA (2002), the estimated lifetime risk of dying from pregnancy and childhood related causes in Bangladesh is 1 in 21, compared to 1 in over 4000 in industrialized countries. The World Bank, however, currently estimates the national MMR at 440 per 100,000 live births³. Bangladesh is one of the poorest countries in the world, with a maternal mortality ratio of 320/100,000 live births (NIPPORT 2001)⁴. One of the causes of maternal mortality is ruptured uterus. Rupture uterus and obstructed labour constituted about 19% of maternal death⁵.

Case report:

A 32years old lady from lower middle class family, hailing from Daudkandi, Comilla, got herself admitted on 29th Jan. 2011 at her 29 wks of pregnancy with H/O previ-

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ous two rupture of uterus with repair having no living issue. It was not her planned pregnancy but she was in regular antenatal check up under different physicians. Her pregnancy was dated by early ultrasonography at 10-11wks of pregnancy. Her LMP was on 3rd July 2010 and accordingly EDD was on 10th April 2011. According to patient's statement, in her first pregnancy, in 2001 i.e. 9 yrs back, she developed premature labour pain at 30wks of gestation. After prolong labour pain of 12hrs she was shifted to local hospital on 30th Oct 2010. In that hospital labour was augmented by oxytocin by attending nurses. Gradually her condition deteriorated and abdomen was distended. An emergency ultrasonogram was arranged which revealed intrauterine fetal death(IUFD) with transverse lie. She was then referred to Comilla Medical College Hospital after sixteen hours since starting of labour pain. Her attendants brought her to Dhaka but in a private clinic. Laparotomy was done and found rupture of uterus and repair was done. In her operation note no other description (site, degree of rupture, injury to adjacent organs) were there. She becomes pregnant again on 2006 i.e. after 5yrs of 1st pregnancy and was on regular antenatal care. She developed premature labour pain at 35⁺³ wks of gestation, and was immediately transferred to same clinic in Dhaka. Laparotomy was done by same obstetrician. On laparotomy baby was found dead. Rupture was found in anterior wall near the fundus and was repaired. 3 units of blood were transfused. This was her 3rd pregnancy, 3 yrs after her 2nd rupture. She attended our OPD at 28 wks of pregnancy and we admitted her at 29wks of pregnancy. At 31⁺⁵ wks pregnancy she developed premature labour pain at 7AM on 10th Feb, 2011 and immediately emergency LSCS was done. A baby of 1.4 kg was delivered with good Apgar score and was admitted in neonatal ICU for prematurity. On exploration multiple intermittent incomplete focal rupture near fundus was noted which found to extend to anterior wall of uterus and was repaired. The right side of body of uterus was adherent with anterior abdominal wall. The uterus was sutured in two layers with No.1 vicryl. Hemostasis was confirmed. Injury to other abdominal viscera was ruled out. Keeping a drain tube abdomen was closed in layers. Her postoperative period was uneventful. Unfortunately baby expired in neonatal ICU after about 36 hrs. She had uneventful postoperative recovery and was discharged

healthy.

Discussion:

Rupture uterus is a grave condition, which is almost always fatal for the fetus.⁶ Uterine rupture may develop as a result of pre-existing injury like scar or perforation or anomaly. It may be associated with trauma or it may complicate labour in a previously unscarred uterus. The most common cause of uterine rupture is dehiscence of a previous caesarean section scar.⁷ There are two types of uterine rupture, complete and incomplete, distinguished by whether or not the serous coat of the uterus is involved.⁸ In the former the uterine contents including fetus and occasionally placenta, may be discharged into the peritoneal cavity, whereas in the latter the serous coat is intact and fetus and placenta are inside the uterine cavity.⁹ The complete variety appears to be more dangerous of the two varieties.^{10,11} Rupture of uterus during labour is more dangerous than that occurring in pregnancy because shock is greater and infection is almost inevitable.^{12,13} Fortunately, these ruptures are relatively rare events in developed countries where most of the deliveries occur under skill birth attendant and exceedingly rare for women who've never had a C-section, a previous rupture, or other uterine surgery. Obstetrical care in the Western world is at its peak. But in the developing countries, it is still at the docks, due to illiteracy, male dominant society and untrained birth attendants. Majority of population living in rural areas do not have an easy accessibility to a maternity and essential obstetric care. Therefore they may develop life-threatening complications of pregnancy with high fatality rate. Woman attempting a vaginal birth after cesarean (VBAC), needs continuous fetal monitoring. The mother may have symptoms such as abdominal pain, vaginal bleeding, a rapid pulse, and other signs of shock, and may even experience referred pain in her chest caused by irritation to the diaphragm from internal bleeding.

In a study thirty seven patients with uterine rupture were identified, the uterus was scarred in 62.2%. Rupture were repaired in 26(70.3%) cases. Twelve patients subsequently conceived, with recurrence in 8/24(33.3%) pregnancies. Patient with recurrence had a shorter median interval from previous rupture (2 versus 5yrs), a higher incidence of

previous longitudinal rupture (60% versus 0%) and the median gestational age at the preceding rupture was lower without reaching statistical significance (34 versus 38wks).¹⁴ In another study on 18 pregnancies, 15 patients in whom a single repair of a ruptured gravid uterus had been performed previously were reviewed. 17 of these had a successful outcome. There was no case of recurrent rupture.¹⁵ In one study 17 cases of rupture uterus were reviewed. Nine patients had suture repair, two with sterilization. Six of these subsequently become pregnant, for a total of ten babies, all delivered by caesarean section. They conclude suture should be considered whenever possible to maintain the patients future fertility.¹⁶ In one study in Kathmandi Nepal, in 251 cases of rupture uterus in 20yrs study period, 60% had spontaneous rupture, 29% scar dehiscence and 11% iatrogenic/ traumatic rupture. Fifteen cases (6%) were primigravid patient - six were young primi (age <19yrs). All were having labour pain for more than 48hrs at home. They concluded that rupture of uterus in primigravida though rare, has been common in developing countries¹⁷, which definitely gives a message that nulliparous i.e. primigravida uterus is not immune to rupture. Due to illiteracy, poverty and socio- culture belief, early marriage is common in Nepal. Chin reports that uterine rupture is extremely rare in the absence of the commonly recognised risk factors.¹⁸ Walsh have reported the rare occurrence of a spontaneous uterine rupture in a non-labouring primigravid with no known risk factors.¹⁹ Catanzarite V comment that intrapartum rupture of the unscarred uterus are usually associated with risk factors as grand multiparity, malpresentation, history of gestational trophoblastic disease, or instrumented delivery. They state that the rupture during first pregnancy is extremely rare.²⁰ Kazandi M reports a primigravida with rupture of gravid uterus due to placenta percreta, which is a serious complication of pregnancy.²¹ In one study there were 27cases of uterine rupture out of 69,752 deliveries. There were 20 pregnancies after repair of complete uterine rupture and 10 of them resulted in live babies, all delivered by cesarean section. There was only one repeat uterine rupture. There was no cases of cesarean hysterectomy. They also conclude pregnancy after uterine rupture is associated with relatively good maternal and neonatal outcome when followed in a tertiary centre.²² In our patient her 1st rupture occurred probably from augmentation of labour in malpre-

sentation followed by obstructed labour and rupture uterus. Rupture uterus should be managed in tertiary level hospital, by seniors or expert. Repair should be in full thickness and with proper suture materials. Successive rupture occur in previous longitudinal scar in upper segment.

Conclusion:

Rupture of the uterus is a catastrophic obstetric complication which in primigravida is supposed to be extremely rare but not uncommon. Rupture uterus adversely affects the future obstetric outcome. As we have seen in our case, rupture uterus in first pregnancy caused repeat rupture in her subsequent two pregnancies in early gestational age resulting in no living issue. It reveals the fact that our obstetric service needs much improvement to prevent such catastrophic complications.

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