

## Case Report

# Rupture of a previously scarred uterus along with rupture bladder-an obstetric catastrophe

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## Abstract

Rupture uterus is a deadly obstetric emergency endangering the lives of both mother and fetus. Improved obstetric care reduces the rupture from obstructed labour but there has been increased prevalence of scar rupture, following an increase in incidence of caesarean delivery. Serious maternal bladder injury at the time of uterine rupture remains a risk of attempted vaginal birth after previous caesarean section (VBAC).

Here we present a case of rupture uterus & bladder in a 29 years old 4<sup>th</sup> gravida p2+1 female presenting at East West Medical College (EWMC) hospital, Dhaka with 39 weeks pregnancy and came in shock. Successful emergency surgery and resuscitation saved her life. Ruptured uterus and ruptured bladder were found and fetus was fresh stillborn male weighing (3kg). Repair of rupture uterus and bladder was undertaken.

**Keywords:** *Ruptured uterus, Ruptured Bladder, VBAC (Vaginal birth after caesarean delivery)*

## Introduction

Uterine rupture in pregnancy is a rare and often catastrophic complication with high incidence of maternal morbidity, mortality and perinatal loss. The prevalence widely varies from 1 in 2000 to 1 in 200 deliveries.<sup>1</sup> It can be spontaneous or scar rupture or iatrogenic or traumatic. Lower segment scar rupture predominately occurs during labour but upper segment caesarean section or classical caesarean section may rupture during pregnancy also. There are two types of uterine rupture, complete and incomplete, distinguished by whether the serous coat of the uterus is involved or not.<sup>2</sup> In the former, the uterine contents including fetus and occasionally the placenta may be discharged into the peritoneal cavity. Whereas in the latter, the serous coat is intact with the fetus and the placenta being inside the uterine cavity.<sup>3</sup> The complete variety appears to be more dangerous of the two.<sup>4, 5</sup> There is a four-fold increased risk of ruptured uterus in labour augmentation with oxytocin after previous scar.<sup>6</sup>

The diagnostic features of these catastrophes are presence of shock, tenderness over the uterus and

varying amount of vaginal bleeding. Prognosis depends on types of rupture, morbid morphological changes and effective management. Rupture following obstructed labour leads to maternal death of about 20%.<sup>1, 7</sup> Fetal morbidity occurs due to catastrophic hemorrhage, fetal anoxia or both with perinatal death of up to 46%.<sup>7, 8</sup> Ruptured uterus involving the bladder is a rare condition with incidence of about 18%.<sup>8, 9</sup> Obstetrical injuries to bladder may be due to traumatic, instrumental delivery or sloughing fistula in obstructed labor. It results from prolonged compression effect on the bladder between the fetal head and symphysis pubis in obstructed labour. Gross hematuria immediately after delivery or blood stained urine during labour is the most common presentation in bladder rupture. Like vesicovaginal fistula (VVF) and bladder rupture, uterine rupture is also associated with other short-term maternal morbidity like rectovaginal fistula (RVF), foot drop and psychological trauma.

Once the diagnosis of rupture is established the immediate stabilization of the mother and the delivery of the fetus are imperative. After the fetus is successfully



delivered, the type of surgical treatment for the mother should depend on few factors, like

- Type of uterine rupture
- Extent of uterine rupture
- Degree of hemorrhage
- General condition of the mother
- Mother's desire for future childbearing

Resuscitation and laparotomy first, then decision of either uterine repair or hysterectomy should be taken. Quick subtotal hysterectomy rather than total hysterectomy is preferred in case of intractable bleeding as a life saving measure.<sup>1,9</sup> Repair is mostly applicable in a scar rupture where margins are clean cut and mother has desire for future fertility. Repair and sterilization, can also, be done in a clean cut rupture where the woman has completed the family.

### Case Report

Here is the report of a case of rupture uterus along with bladder rupture. Mrs. Roksana 29 years, a housewife, gravida fourth Para<sup>2+1</sup> with H/O previous LUCS 7 years back, presented at East West Medical College hospital in the department of Obs. & Gyn. with the complaints of pregnancy for 39<sup>+5</sup> weeks with labour pain for 10-12 hours. Home trial for vaginal delivery was tried by local Dai (Traditional birth attendance), but failed. There they used some injection (? Oxytocin) to hasten the delivery. On admission, she had severe abdominal pain. Pain gradually became continuous and more severe. Patient was dehydrated, exhausted, BP was 90/60 mm of Hg, pulse 96 beats/minute. Abdomen was severely tender and tense, longitudinal lie, cephalic presentation. Cervical dilatation was 5-6 cm, station -- 2, there was caput and moulding, vagina was dry. Decision for emergency LUCS was taken immediately and the patient taken to Operation Theater (OT) within a very short time. When taken in the OT table just before giving anesthesia, her general condition deteriorated suddenly. She went in shock and Blood pressure became 70/40 mm of Hg, Pulse 120 beats/minute and feeble, pallor+++ almost paper white, severely tense & tender abdomen, scar tenderness, fetal heart sound was absent. Fetal parts were easily palpable. During catheterization in OT, fresh blood was noticed in urobag as well as severe per vaginal fresh bleeding; cervical os was 6 cm dilated.

The patient was, clinically diagnosed as ruptured uterus with severe shock. Laparotomy was decided and initially resuscitation done by fluid and blood transfusion. Four units of blood was arranged for and given both during surgery and postoperatively saving the life of a "NEAR

MISS" case like hers'. After opening the abdomen, the peritoneal cavity was found to be full of fresh blood, with a fresh still-born fetus (3kg) floating. In addition, the uterus was ruptured over the previous scar line. The rupture extended up to the middle of anterior vaginal wall and very unfortunately the bladder wall too, was ruptured anteriorly and balloon of the catheter was visible.

A general surgeon was called-in who, repaired the bladder rupture in two layers, the mucous membrane and muscle separately with 3-0 vicryl. BLTL (Bilateral tubal ligation) and repair of ruptured uterus was done. Catheter was kept in situ for 2 weeks and parenteral antibiotics were administered for 48 hours. Post-operative period was uneventful; hence the patient was discharged after 2 weeks in good general condition. She was followed up on for 3 months with no other problem having good physical and social life.

### Discussion

Uterine rupture occurred in <1% of patients undergoing a trial of labour after caesarean section. Serious maternal bladder injury at the time of uterine rupture remains a risk of attempted vaginal delivery after a prior caesarean section (VBAC).<sup>9</sup> In uterine rupture the most affected are the primigravida, illiterate teenagers living in rural areas relying on a traditional birth attendants who are unable to diagnose CPD (Cephalo pelvic disproportion). Various risk factors in relation to uterine rupture during trial of labour have been identified including, a classic uterine incision, induction with prostaglandins, single layer closure of a prior uterine incision and an inter pregnancy interval of < 18 months.<sup>10,11</sup> One study of 3015 cases by Shipp et al showed the rate of rupture uterus in women older than 30 years to be 1.4% versus younger women at 0.5%.<sup>8,10</sup> Here the patient was 29 years, multigravida, who came from a lower middle class family, with little education, and irregular and infrequent antenatal check up. Various factors are there in this cases to cause her uterine and bladder rupture like H/O previous scar, with mismanagement of labour by untrained Dai, injudicious use of oxytocin at home by local dai and obstructed labour.

One study of ruptured uterus, a review of 34 cases at Ayub Teaching Hospital in Abbottabad, showed the leading cause of ruptured uterus to be mismanagement by traditional birth attendants.<sup>12</sup> Their study also showed that there is a 4-5 fold increased risk of uterine rupture among women who have had a previous single layered uterine closure compared with those having two layered closure.<sup>12</sup> Here we do not know whether this patient had



previous single or two layer closure as it was an unbooked case and there was no record of previous operation. One study in Singapore showed the incidence of uterine rupture was 1 in 6331 deliveries.<sup>10</sup> The commonest antecedent factor was previous lower segment caesarean section for one group and CPD (Cephalo pelvic disproportion) for the unscarred group and the ratio of cases with scarred uterus with unscarred uterus was 3:1.<sup>10,12</sup> This study also shows maternal mortality was 3.8% and overall fetal loss was 7.4%.<sup>10</sup> Sonography, has been suggested as a tool for evaluating the risk of VBAC (Vaginal birth after cesarean) for risk of scar rupture during subsequent labour. A full lower uterine segment <2.3mm in thickness measured between 35 and 38 weeks of gestation is associated with a higher risk of complete uterine rupture during VBAC.<sup>13</sup> One study in Ankara, Turkey of 150 cases of rupture uterus showed incidence of rupture uterus was 1 in 966 deliveries. Here the fetal loss was 32.2% and 98 % mother was saved.<sup>14</sup> Another study in 1993-1994 of 32 cases of uterine rupture in Mansa general Hospital in Zambia showed incidence of bladder injury in 23% of cases.<sup>15</sup> Subtotal Hysterectomy was done in 47% of cases, post-operative mortality was as high as 44%.<sup>15</sup> These were mainly due to sepsis, and another cause was anaemia. In their study mortality did not differ significantly in patients who underwent Hysterectomy and there treated by uterine repair. Fetal mortality was 100%.<sup>15</sup> In our case also, the fetus was dead. Several studies have showed that the delivery of the fetus within 10-37 minutes of uterine rupture is necessary to prevent serious fetal morbidity and mortality.<sup>16</sup> By rapid intervention severe metabolic acidosis in neonate, and neonatal mortality can be reduced and there by limit the occurrence of neonatal death.<sup>16</sup> This shows that incidence, rate of maternal mortality, and fetal mortality is somewhat variable in different studies in different countries. This happens because the socio economic status, socio demography, level of education and standard of medical services and facilities are not unique throughout the globe.

Here, the condition occurred due to ignorance and irresponsibility of the family members added with further mishandling by local Dai (birth attendants). People who live in remote places fail to get medical care due to communication problem. Moreover people who live in urban area are reluctant to go to hospital for fear of operation, financial burden and belief on taboos.

### Conclusion and Recommendation

Rupture of uterus is the worst accident in obstetric

practice. Female education and empowerment, prevention of early marriage before 18 years, good antenatal care, family planning, and basic health service in the rural health care center with well-equipped and trained personnel, prompt referral, availability of transport, are all essential factors to prevent these types of obstetrics catastrophes and to reduce the maternal morbidity and mortality along with perinatal loss. Also practically implement the slogan of '**safe motherhood**' so that every pregnancy is planned and every delivery should be safe.

Mass education through electronics press media and public awareness campaigns should be carried out to raise the public awareness of the need for the routine antenatal check-up, intranatal care and post natal care.

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