



MANAGEMENT OF UTERINE RUPTURE WITH BLADDER INJURY IN A CASE OF FULL TERM PREGNANCY WITH PREVIOUS CESAREAN SECTION

Obstetrics & Gynaecology

Dr. Kumari Ankita	Junior Resident, Department of Obstetrics & Gynaecology, G.G.M.C & Sir J.J. Group of Hospitals.
Dr. Tushar Palve	Associate Professor, Department of Obstetrics & Gynaecology, G.G.M.C & Sir J.J. Group of Hospitals.
Dr. Sakina Fatemi	Assistant Professor, Department of Obstetrics & Gynaecology, G.G.M.C & Sir J.J. Group of Hospitals.
Dr Rajashree Thatikonda	Senior Resident, Department of Obstetrics & Gynaecology, G.G.M.C & Sir J.J. Group of Hospitals.
Dr. Hetvi Somaiya	Junior Resident, Department of Obstetrics & Gynaecology, G.G.M.C & Sir J.J. Group of Hospitals.
Dr. Samiksha Dhama	Junior Resident, Department of Obstetrics & Gynaecology, G.G.M.C & Sir J.J. Group of Hospitals.

KEYWORDS

INTRODUCTION:

Caesarean section is a crucial intrapartum care that can be lifesaving for both the mother and the fetus. It is often necessary for situations such as fetal distress, obstructed labour, obstetric haemorrhage, abnormal presentation, and other obstetric emergencies.

According to recent global estimates from 169 countries, the prevalence of Caesarean Section deliveries stands at 21.1%, surpassing the WHO's recommended limit of 10–15% of all births.¹ In India CS deliveries too increased significantly from 8.5% to 21.5% from 2005-06 to 2019-21²

Cesarean Section not only increases the risk of complications for pregnant women such as hemorrhage, blood transfusions, infections, and prolonged hospital stays, but also poses risks in subsequent pregnancies, such as placenta previa, adherent placenta, and uterine rupture.^{3,4}

Uterine rupture, although rare, is a potentially life-threatening complication in subsequent pregnancies after a previous CS. It can occur prior to or during labour and typically necessitates emergency CS, often accompanied by severe bleeding, placental or fetal expulsion into the abdomen, and sometimes requiring hysterectomy or uterine repair. Newborns are frequently distressed, often requiring admission to a neonatal intensive care unit or leading to Fresh Still Births⁵. Incidence of Uterine rupture fluctuates depending on clinical conditions and is estimated to range between 0.5 and 4% in women undergoing Trial of labour after previous cesarean section.⁶

As per findings from a literature review on uterine rupture in developing nations, upto 64% of women with uterine ruptures were those who had prior Cesarean section (CS) or uterine scars. Additionally, a study conducted in India revealed that the incidence of uterine rupture among women with prior CS stood at 1.69% and for women without LSCS : 0.152%⁷. These statistics shed light on the notable association between previous CS and the occurrence of uterine rupture, emphasizing the importance of vigilant monitoring and appropriate management strategies in obstetric care settings. Such insights contribute significantly to understanding the epidemiology and risk factors associated with uterine rupture, thereby informing clinical practice and healthcare policy formulation in addressing this critical obstetric complication.

Presentation Of Case :

A 32-year-old woman, married since 14 years and Gravida-3, Parity-2, with one live birth and one neonatal death was referred to our Centre at 41.1 weeks of gestation with the complaint of pain in the abdomen since morning. She had delivered her first child via spontaneous vaginal delivery 11 years back and had a cesarean section 7 years back

during her second pregnancy due to non-progression of labour. The patient was registered for Antenatal care and immunisations at a Peripheral Health Centre in Uttar Pradesh with no significant medical history. She visited a private practitioner in Mumbai, during her 8th Month of Gestational Age, where an Ultrasonography was done, suggestive of “Single Live Intra Uterine Fetus of gestational age of about 35 weeks 5 days in cephalic presentation with normal placentation and normal doppler study with adequate AFI.”

At 41.1 weeks of gestation, the patient began experiencing abdominal pain in the morning, which intensified by the evening, prompting her to visit the same private healthcare center where she was advised to undergo an obstetric ultrasound which was suggestive of “An intrauterine Fetal Death of 36 weeks 2 days, Fetus is seen lying Outside the maternal uterus into maternal abdominal cavity – s/o ruptured uterus. A 11.6 x 5.3 x 1.1 cm (approx. 386 volume) size fluid collection is seen anterior to uterus, could represent hemoperitoneum.”



Fig.1: USG OBS showing fetus outside uterine cavity and empty uterine cavity.

The patient was referred to our center, where she was promptly attended by the on-call OBGYN. On examination, she was alert, conscious, and oriented, with a pulse of 120 bpm, blood pressure of 130/80 mm Hg, and oxygen saturation of 98% at room air. Abdominal examination revealed a loss of uterine contour, fetal parts were easily palpable, and fetal heart sounds were not localised. During per speculum and vaginal examination, the fetal head was felt at the cervical os. The patient was then immediately transferred to the operating theatre for emergency exploratory laparotomy.

Surgical Procedure:

Intraoperatively, upon opening the parietal peritoneum, a male fetus (fresh stillbirth, 3.1 kg) was found in the abdominal cavity with Caput +2 and was delivered along with the placenta. The uterus was exteriorized, revealing a rupture in the upper segment at previous scar site that extended laterally on the left side from the uterus to the vagina. Uterus was well contracted and on further examination bladder was adhered to the previous cesarean scar site on the right side. On the left

side, along with the ruptured uterus, a 8x8 cm rent was found on the posterior rim and apex of the bladder, with the posterior bladder wall significantly thinned out. Urologists were called immediately.

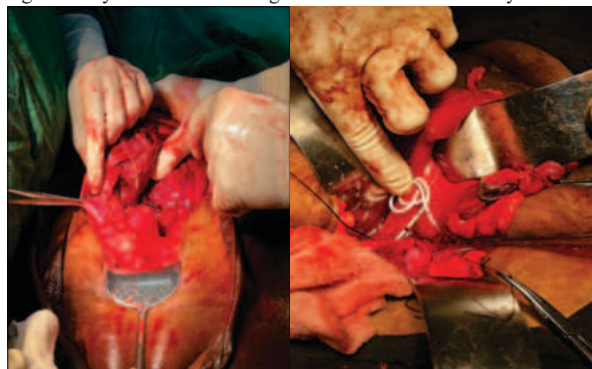


Fig 2. Showing Uterine rupture at previous cesarean site.

Fig 3. DJ stents placed in B/L uterine openings



Fig 4. Lower limits of uterine rupture traced and repaired

Uterus was sutured in a single layered fashion with vicryl.

Bilateral ureteric opening identified and cannulated using guide wires and B/L DJ Stenting done. Bladder Rupture was repaired in double layered fashion by urologists . SPC placed and fixed. Leak test done and no leak was found.

Two drains were kept in pre vesicle space and pouch of Douglas respectively. Hemostasis checked and secured and Abdomen closed in layers. Blood loss was estimated to be around 700 ml.

Intra operatively 2 pint whole Blood was transfused and patient was shifted to CCU for post operative monitoring in intubated state.

Patient was extubated on post operative Day 2. Patient was vitally stable and urine output was adequate. Supra pubic and transurethral catheter was kept for 3 weeks.

DISCUSSION:

The global increase in cesarean section (CS) rates has heightened the risk of maternal and neonatal complications in subsequent pregnancies and labour. Previous studies have shown that a successful trial of labour after cesarean (TOLAC) is linked to the lowest maternal morbidity. However, the risks associated with an unsuccessful TOLAC surpass those of a scheduled repeat CS.^{8,9} Research indicates that women with no prior vaginal delivery, a maternal height of less than 160 cm, diabetes, or suspected neonatal macrosomia may face a higher risk of a failed trial of labor.¹⁰

Uterine rupture (UR) is the primary and most severe complication of attempting a vaginal birth after a cesarean. Although it occurs in less than 1% of cases, it significantly increases both maternal and fetal morbidity. Uterine Rupture involves a break in the uterine wall, which can be complete, affecting all layers of the uterus, or partial, involving only some layers. It mainly occurs in the lower uterine segment during labor, often due to sustained excessive uterine contractions, trauma, or prior uterine surgeries, particularly from previous cesarean deliveries (PC). This condition is a critical emergency that can be fatal for both the fetus and the mother. Immediate intervention is essential, typically

involving an emergency cesarean followed by repairing the uterine rupture, if possible, or performing a hysterectomy.¹¹ Numerous reports have documented maternal and neonatal morbidity and mortality associated with massive hemorrhage, blood transfusion, peripartum hysterectomy, perinatal asphyxia, ischemic encephalopathy, and even maternal or fetal death.¹²

As in our case, Patient went into labor spontaneously and seemed to be in obstructed labour as indicated by the presence of grade 2 caput on Fetal head which resulted in uterine rupture and expulsion of fetus in abdominal cavity along with placenta.

Uterine rupture is often associated with massive postpartum hemorrhage (PPH). The bleeding can result from extensive damage to the uterine muscle and surrounding tissues or from uterine atony that develops due to the rupture. Traditionally, PPH is defined as an estimated blood loss of over 500 mL following vaginal delivery or over 1000 mL following cesarean delivery. In our case, there was no massive bleeding, the patient did not develop coagulopathy, and the hemoglobin level remained stable throughout. Bladder repair was done intraoperatively with SPC and pre vesicle drain kept in situ for further post operative monitoring. Thanks to the availability of multi-specialty care and vigilant management approach patient was timely and adequately managed.

CONCLUSION :

The significant maternal morbidity and mortality, along with fetal mortality resulting from uterine rupture and associated bladder rupture in full-term pregnancies attempting trial of labor after cesarean section, underscore the need for an integrated effort to prevent such outcomes. It is crucial to analyze risk factors, maintain extreme vigilance, and continuously monitor both the mother and the fetus. This approach allows for immediate therapeutic action if this dangerous complication arises.

Essential factors include quality antenatal care, counselling of patients and relatives of all the risks and complications in the Antenatal visit as well as intrapartum monitoring with prompt diagnosis and referral of obstructed labour cases to higher centres. These measures are vital for preventing uterine rupture and reducing the associated maternal and fetal morbidity and mortality.

Conflicts Of Interest: There are no conflicts of interest

Abbreviations:

CS -Cesarean Section
S/O : suggestive of
CCU : Critical Care Unit
DJ stent : Double J stent
SPC : Supra Pubic Catheter

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