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# Breaking the Scar: A Life-Threatening Uterine Rupture After Caesarean Section- A Case Report

**[1]Dr. Namita Gupta,[2]Dr Souvik Chakraborty, [3]Dr. Ankita Roy,[4]Prof(Dr) Subhrojyoti Bhowmick. [5]Dr. Sampath Santhanam**

[1]MBBS,MS, Junior Resident-2, [2]MBBS, intern, [3]MBBS. Post graduate trainee,
[4]MD. FRCP(Edin), FRCP(Lon), Professor and HOD,
[5]MS, DNB,IDCC(gynae and onco), HOD,
[3,4]Department of Pharmacology, [1,5]Department of Obst and Gynaecology,
[3]KPC Medical College and Hospital, Jadavpur, Kolkata-3
[4]JIMSH, Sodepur, West Bengal
[1,2,5]Varun Arjun Medical College, Uttar Pradesh-242307

***Corresponding Author:**
**Prof(Dr.) Subhrojyoti Bhowmick**
MD. FRCP(Edin), FRCP(Lon), Professor and HOD,
Department of Pharmacology, JIMSH, Sodepur, West Bengal

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**Abstract**

Introduction: It is an uncommon obstetric complication that may occur in a previously unscarred uterus or more commonly, with a previous caesarean section or full thickness hysterotomy scar. Causes of uterine rupture includes types and number of previous caesarean section , previous h/o surgery involving myometrium, prolonged obstructed labour; injudicious use of oxytocic drugs; Instrumental delivery through an incompletely dilated cervix. Patient usually presents with continuous sharp pain abdomen, tachycardia. So early diagnosis is the key to success

Case Description: A 30 year old patient came to casualty with a history of G2P1L1 with 39 weeks pregnancy with previous history of one cesarean section. Her chief complaint was severe pain in abdomen since 4 hours. The pain was sharp , rapidly progressive in nature , radiating to back & thigh with no relieving factor. There was no history of leaking or bleeding present per vaginally.

Conclusion: Uterine rupture is a major contributor to maternal morbidity and neonatal mortality. Identifying these high-risk women, early diagnosis, immediate transfer, and optimal prompt management must be overemphasized to avoid adverse feto-maternal complications. Extreme caution should be taken when managing a patient with a previous uterine scar and attempting a trial of labour.

**Keywords**: uterine rupture. Caesarean section, early diagnosis

## Introduction

Complete uterine rupture is defined as complete separation of the wall of the pregnant uterus(a full thickness tear through myometrium and serosa) resulting in significant uterine bleeding , with or without expulsion of the fetus, which may acutely endanger the life of the mother and/or fetus. In Incomplete rupture/dehiscence there is separation of a pre existing scar without disruption of the overlying uterine serosa. The foetus, placenta and the umbilical cord are within the uterine cavity and bleeding is usually less.(1)

It is an uncommon obstetric complication that may occur in a previously unscarred uterus or more

commonly, with a previous cesarean section or full thickness hysterotomy scar. The overall rate is approximately 6/10,000 deliveries.(2) In developed countries, uterine rupture is mainly due to vaginal births following previous caesarean sections (VBAC) however, in developing countries neglected obstructed labour is still a common cause.(2) The incidence of uterine rupture after a lower segment transverse caesarean section is about 1%, low vertical scar 1–7% and following a J, inverted T incision or previous classical caesarean is 4–9%.(3)

Causes of uterine rupture includes types and number of previous caesarean section , previous h/o surgery involving myometrium, prolonged obstructed labour; injudicious use of oxytocic drugs; Instrumental delivery through an incompletely dilated cervix. Patient usually presents with continuous sharp pain abdomen, tachycardia. Bleeding is frequently intraperitoneal or retroperitoneal rather than vaginal; characteristic sign is the loss of the presenting part in P/V examination. The fetal parts become easily palpable through the abdominal wall, uterine contour is lost; prolonged fetal bradycardia; case of severe shock developing after delivery, that is unexpected or unexplained.(4)

Maternal complications can be hemorrhage, need for multiple blood transfusions, shock, associated visceral injuries like urinary bladder, hysterectomy, sepsis, ICU admissions. Fetal consequences are fetal hypoxia/anoxia, sepsis, admission to the neonatal intensive care unit, and neonatal mortality, etc. So early diagnosis is the key to success. (5)

We want to report this case to emphasize the need of early diagnosis to save a mother with an uterine rupture and also to share lessons that may guide future obstetric practice.

**Case Description**

A 30 year old patient came to casualty with a history of G2P1L1 with 39 weeks pregnancy with previous history of one cesarean section. Her chief complaint was severe pain in abdomen since 4 hours. The pain was sharp , rapidly progressive in nature , radiating to back & thigh with no relieving factor. There was no history of leaking or bleeding present per vaginally. Though history of dai handling was present.

On detail history taking, it was found that her 1st child is a boy aged 5 years. She had a cesarean section during the delivery. Following that she had regular menstrual cycles lasting 3-4 days. It was also found that she did not have any history of diabetes, tuberculosis, asthma or hypertension. She also revealed that she did not take any iron or calcium tablets during her second pregnancy and only 1 dose of tetanus toxoid injection has been covered.

On general physical examination, it was found that the patient was conscious, cooperative and oriented. Her pulse rate was 138bpm, Blood Pressure was 96/60mmHg, spo2 was 92% at room air and respiratory rate was 26/min. She was afebrile at the time of examination.

In abdominal examination, uterine contour could not be felt, fetal parts were palpable but on pelvic grip no fetal part was identified, Fetal heart rate could not be appreciated properly. During per vaginal examination, no leaking or bleeding was observed. Cervix was high up and uneffaced, os closed, show absent, no presenting part felt.

Before confirming any diagnosis, ultrasonography and blood examinations were advised immediately.

The ultrasonography showed a single live intrauterine pregnancy of 29 weeks 3 days 2 months before with a longitudinal lie and cephalic presentation. Placenta was visualized in posterior segment along with adequate liquor. Fetal heart rate was 150 beats/ minute.(shown in Figure 1)

The blood report showed a hemoglobin of 11 gm%, total leucocyte count of 26,300/cc mm, platelets of 4.60 lacs/cc mm. INR value was 1.0, prothrombin time was 15.3 sec and RBS 84.2 mg/dl. SGOT was 54.6 IU/L, SGPT was 41.3 IU/L, S.ALP was 367.8 IU/L. The viral markers were non reactive and blood group of the patient was A positive.

Keeping all the clinical findings and investigations in mind, a provisional diagnosis of uterine rupture was made. On the suspicion of a ruptured uterus patient was immediately shifted for exploratory laparotomy with all risks and prognosis explained. Intravenous Ringer Lactate started.

Intraoperative findings revealed, 1500 cc of hemoperitoneum seen, fetus was lying within the abdominal cavity with the placenta separated and lying in peritoneal cavity. 2 Units of PRBC was transfused.



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The fetus was delivered safely and attended by the pediatrician. It was a male baby weighing 2940 gm.

It was also observed that there was an uterine rupture of 12-14 cm, regular, vertically in midline likely in previous classical cesarean incision site. (Shown in Figure 2) No evidence of bladder injury was confirmed by retrograde instillation with methylene blue dye with normal saline. The uterine rupture was repaired and the uterus was conserved.

Postoperatively, the patient was admitted to the ICU and the postoperative period was uneventful. Though, her Hb post operatively was 8.4gm/dl. The patient was discharged on postoperative day 3 with follow-up advice, contraceptive counselling, risk of rupture during future childbirth, and the need for proper antenatal care in the future.

## Discussion

Uterine rupture is a catastrophic condition for both mother and foetus.(6) Its consequences usually depends on the time interval between an event of uterine rupture and its surgical management. (5)A study by Akhter N. et al. in 2023 revealed that in about 24% of cases, the risk factor for uterine rupture was a 'history of 1 previous LSCS with oxytocin infusion'.(7)

At first patient should be managed with immediate vital parameters measurement, 4 of 6 intravenous fluid and blood transfusion, and other supportive and resuscitative measures for the management of shock along with preparation for urgent surgery after the diagnosis of uterine rupture.(5) In our case 2 Unit Packed Red Blood Cells(PRBC) was transfused intraoperatively and 3 IV Ringer Lactate was given.

This helps in stabilizing the patient and reducing maternal mortality. It can be managed by repairing uterine rupture and conserving the uterus or subtotal or total hysterectomy. The type of surgery can be decided by an obstetrician based on the type, location, and length of uterine rupture, residual normal uterus, severity of haemorrhage, parity, mother's desire for future childbearing, general condition of the patient, associated other visceral injuries, etc. In our case we preserved the uterus .

In a study done by Eze j et al. in 2017, it found that uterine repair only was commonly performed by 38 (48.1%) and uterine repair with BTL or (sub) total hysterectomy by 41 (51.9%) respondents.(8)

## Conclusion

Uterine rupture is a major contributor to maternal morbidity and neonatal mortality. Identifying these high-risk women, early diagnosis, immediate transfer, and optimal prompt management must be overemphasized to avoid adverse feto-maternal complications. Extreme caution should be taken when managing a patient with a previous uterine scar and attempting a trial of labour. Increased accessibility to good obstetric care and prompt referral system to equipped facilities with availability of transportation services is essential for developing countries to avoid these catastrophic emergencies.

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**Figures:**

**Figure 1-**

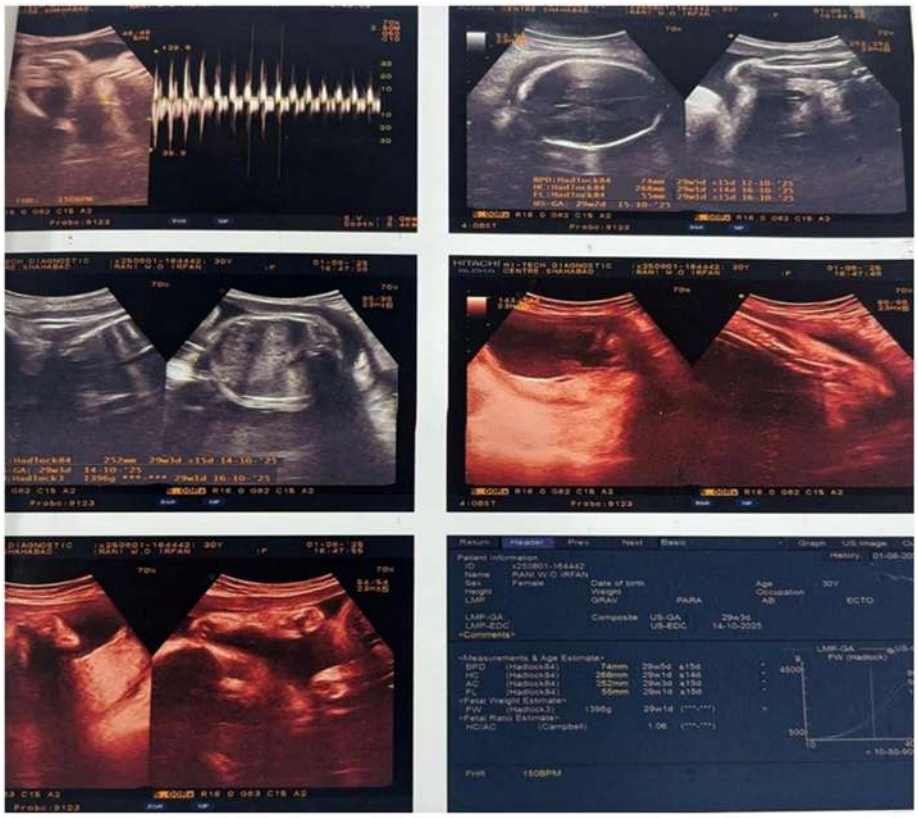

Figure 1: USG plates showing live intrauterine pregnancy and fetal heart sounds at 29th week.



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**Figure 2-**

Figure 2: Showing uterine rupture



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