

## A rare case of posterior wall uterine rupture in Non-Scarred Uterus

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### Abstract

A 30 year old female, gravida 3, para 2 with two previous full term normal vaginal deliveries and a history of 9 months of amenorrhea was referred to C. U. Shah Medical college and Hospital for severe anemia with complaints of lower abdominal pain and breathlessness. Abdomen was soft, non-tender and unduly enlarged. Fetal heard sounds were absent. Laparotomy was performed under diagnosis of uterine rupture. Uterus was found to have ruptured from the posterior wall and was beyond repair. Hence Obs hysterectomy was performed. Patient recovered completely on post op day 11 and was discharged the same day. Gravid non scarred uterus can rarely rupture spontaneously during labour and can present with vague complaints which can be difficult to diagnose merely on the basis of clinical signs and symptoms.

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### Introduction

Uterine rupture is a life threatening obstetrical emergency encountered infrequently in the emergency department where the diagnosis is often missed or delayed, leading to maternal and fetal mortality and/or morbidity. At the same time for every maternal death there are estimated to be more than fifteen women surviving pregnancy and childbirth with severe damage to their health such as vesico-vaginal fistula, recto-vaginal fistula pelvic inflammatory disease and dense adhesions. High maternal mortality and morbidity rate is a consequence of poor maternal care, inadequate socioeconomic and environmental conditions, poor accessibility to health services and poor nutrition habits. Contributing factors are also extremes of maternal age (too young or too old) and too many births within short intervals. About 20 percent of the population in developing countries is women of reproductive age. These women face one of the catastrophic risks of pregnancy "uterine rupture".

### Case Report

A 30 year old female, gravida 3, para 2 with two previous full term normal vaginal deliveries and a history of 9 months of amenorrhea was referred to C. U. Shah Medical college and Hospital for severe anemia with associated breathlessness. She had complaints of lower abdominal pain since 5 to 6 hours and breathlessness since 3 to 4 hours.

Physical examination revealed a blood pressure of 130/86 mmHg and a pulse rate of 140/min. She was afebrile.

Abdomen was soft, non-tender and unduly enlarged. Fetal heart sounds were not appreciated using a stethoscope.

On trans-abdominal sonography, uterus seen separately from the fetus with absent fetal cardiac

activity. Fetus with placenta were seen in peritoneal cavity.

On per vaginum examination, cervix was felt deep with irregular margins. Fetal head felt from rent on the posterior surface of uterus. Head was felt deep in POD. Active bleeding was present.

Laboratory studies revealed hemoglobin of 6.8 g/dl, WBC count of 12,200 per mm<sup>3</sup> and platelet count of 3,85,000 per mm<sup>3</sup>. Urine routine didn't reveal any RBCs.

Emergency exploratory laparotomy was performed under diagnosis of uterine rupture. During laparotomy, hemoperitoneum was found and fetus along with the placenta were completely exteriorized from the uterus. A still born male infant weighing 2700 grams was removed from the abdomen. Uterus was found to have ruptured from the posterior wall and was beyond repair. Hence Obs hysterectomy was performed. Histological examination of uterus revealed dilated endometrial glands infiltrated with RBCs and chronic inflammatory infiltrate, chiefly lymphocytes.

She was observed in ICU till post op day 2. On 2<sup>nd</sup> day, she was transferred to ward. She was under cover of Injectable Sulbactam+Cefoperazone, Metronidazole and Amikacin till post op day 5. She developed sub acute intestinal obstruction on post op day 2 which was treated conservatively on surgeon's advice. Abdominal drain was removed on post op day 3. She developed high grade fever reaching upto 102' F. Hence she was shifted to Injectable Piperacillin & Tazobactam combination on day 6. Her Serum Widal was positive on post op day 7 with titres of 1:80 both for 'H' and 'O' antigen. Injectable Piperacillin & Tazobactam combination was continued till post op day 10 on physician advice. On Post op day 11, she was shifted to tablet Cefixime-Clavulanic acid combination tablet along with tablet metronidazole. Patient recovered completely on day 11 and was discharged on the same day. Throughout her

hospital stay she was given 4 units of packed cell volume and her hemoglobin on discharge was 9.



## Discussion

Rupture of an unscarred uterus is a rare event involving 1: 17,000–20,000 deliveries.<sup>(1)</sup>

This frequency is often higher in developing countries, where it can reach 75% of cases in some areas.<sup>(2)</sup> Rupture of the previously intact uterus during labor most often involves the thinned-out lower uterine segment. When the rent is in the immediate vicinity of the cervix, it frequently extends transversely or obliquely. When the rent is in the portion of the uterus adjacent to the broad ligament, the tear is usually longitudinal. Although these tears develop primarily in the lower uterine segment, it is not unusual for them to extend upward into the active segment or downward through the cervix and into the vagina. In some cases, the bladder may also be lacerated (Rachagan, 1991).<sup>(3)</sup> If the rupture is of sufficient size, the uterine contents will usually escape into the peritoneal cavity. If the

presenting fetal part is firmly engaged, however, then only a portion of the fetus may be extruded from the uterus. Fetal prognosis is largely dependent on the degree of placental separation and magnitude of maternal hemorrhage and hypovolemia. In some cases, the overlying peritoneum remains intact, and this usually is accompanied by hemorrhage that extends into the broad ligament to cause a large retroperitoneal hematoma with extensive blood loss.

Indeed, it is not always easy to distinguish it with other abdominal emergencies (appendicitis, gallstones, pancreatitis, etc.).<sup>(4)</sup>

Occasionally, there is an inherent weakness in the myometrium in which the rupture takes place. Some examples include anatomical anomalies, adenomyosis, and connective tissue defects such as Ehlers-Danlos syndrome (Arici, 2013; Nikolaou, 2013).<sup>(5,6)</sup> They are mainly socio-demographic factors such as for example education, income and habits. An overlapping of these groups of factors could also occur as in the case of consanguinity and congenital anomalies. First-degree consanguinity, which is a sociodemographic indirect cause as well as a direct general risk factor. It increases the probability of congenital anomalies which in turn may cause uterine rupture associated with fetal death and serious maternal mortality and morbidity.

The high parity is recognized as major risk factor of spontaneous uterine rupture in unscarred uterus.<sup>(4)</sup> Other etiological factors classically recognized as contributing to a rupture of unscarred uterus are: obstetric maneuvers, malpresentations especially transverse fetal position, cephalopelvic disproportion, excessive uterine expressions, abnormal placentation (placenta percreta mainly), trauma due to uterine curettage, and uterine abnormalities.<sup>(2,7)</sup> In some cases the rupture of gravid uterus has no obvious cause. In his series of 40 uterine ruptures, Schrinisky and Benson<sup>(8)</sup> found ten spontaneous ruptures without any predisposing factors.

Early surgical intervention is usually the key to successful treatment of uterine rupture.<sup>(4)</sup> The therapeutic management is a total or subtotal hysterectomy. The suture can be performed<sup>4</sup> and helps to preserve the reproductive function of patients who have never given birth with a recurrence risk of uterine rupture assessed between 4 and 19% at a subsequent pregnancy.<sup>(2)</sup> For this reason, it has been recommended that women with a previous uterine rupture undergo an elective Caesarean delivery as soon as fetal lung maturity can be demonstrated.<sup>(9)</sup>

Uterine rupture of an unscarred uterus is associated with significant morbidity and mortality. Schrinisky and Benson,<sup>(8)</sup> in their study, found a maternal and fetal mortality rate of 20.8% and 64.6%, respectively.

There is also considerably increased perinatal morbidity and mortality associated with uterine rupture. A major concern is that surviving infants develop severe neurological impairment (Porreco, 2009).<sup>(10)</sup>

Estimated Risks for Uterine Rupture in various cases are as below

- Prior incision
- Classical 2%–9%
- T-shaped 4%–9%
- One low-transverse 0.2% - 0.9%
- Multiple low-transverse 0.9% - 1.8%
- Non scarred uterus very less

### Conclusion

Uterine rupture is relatively rare but lethal complication. Early diagnosis and prompt management is the key to successful management. Wise use of oxytocics and minimal intervention during labour is the advised to avoid such unforeseen complications.

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