



## Case Report

# A rare cases of uterine rupture

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### ABSTRACT

Maternal morbidity & mortality has been a major World Health Organization concern over the years, especially in developing countries like India. Uterine Rupture during pregnancy is a rare situation. The diagnosis is not always obvious & morbidity & maternal & fetal mortality is still high. Early clinical diagnosis is paramount to maternal survival. This paper reports uterine rupture with severe hypovolemic shock managed at Sunshine Global Hospital Manjalpur, Vadodara. This is an Exceptional case that we observe for the first time.

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## 1. Introduction

Rupture of a pregnant Uterus is one of the life-threatening complications encountered in obstetric practice. It is a rare complication in developed countries, but is one of the common causes of maternal & prenatal morbidity & mortality in developing countries. There are several risk factors associated with rupture uterus but the most common one is a previous caesarean section. Rupture of an unscarred uterus is a rare event. We report a case of a complete rupture of the uterus before labour, in a gravid woman who had an unscarred & scarred uterus.

## 2. Case Presentation

### 2.1. Case 1

7 yrs primary sterility, 34 years primigravida admitted to our hospital with abdominal pain, 2-3 episode of loose stool & 3-4 episode of vomiting since 1- 2 days associated with shortness of breath, headache & weakness. No H/O bleeding P/V or leaking P/V. O/H – Primi Gravida IVF Conceived-By ED. M/H – 28-30days/ 4-5 days / REG / PF

/ Mod. LMP- 11/9/18, EDD- 18/6/ 19 – 22wks 3 days. H/O laparo - Hysteroscopy done in July 2018 Finding are intial difficulty in CX dilatation, uterus, both tubes & ovaries are normal, left small fimbrial cyst excised & removed, bilateral free spill + H-P Report : Cyst fibro collageneous tissue lined by flat Cuboidal epithelium. Para tubal cyst. O/E : Conscio us & disoriented PR – 114/MIN. BP- 60 systolic RR- 28 breaths / min. P/A – 28 to 30 wks, Tenderness +, FSH not located. Fetal parts easily felt P/S – no bleeding. P/V – Pin hole Os. USG: Mild to moderate free fluid seen in peritoneal cavity. Thin membrane noted b/w fetus & maternal bowel loops. May raise suspicion of rupture uterus. Fetal CA – Absent – IUFD. Placenta noted in lower pelvis. Vascularity noted in uterus & placenta. 2<sup>nd</sup> remote possibility is placenta previa with retro placental clots. USG Guided aspiration done under all aseptic precautions, Frank blood noted. She underwent laparotomy. On opening abdomen fetus with membrane was seen in the abdomen. Placenta was in the abdomen. It was ruptured uterus F/B removal of 2 lit. Blood with male baby of 900gms on 27/2/19. Upper segment of Uterus at fundal region was very much thinned out & it ruptured from there. Repair of uterus at fundal region vicryl no 1 in continuous interlocking

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suture. Abdomen closed in layers. Her post operative stay in hospital was uneventful blood transfusion given preop & postoperatively.



Fig. 1:



Fig. 4:



Fig. 2:



Fig. 5:

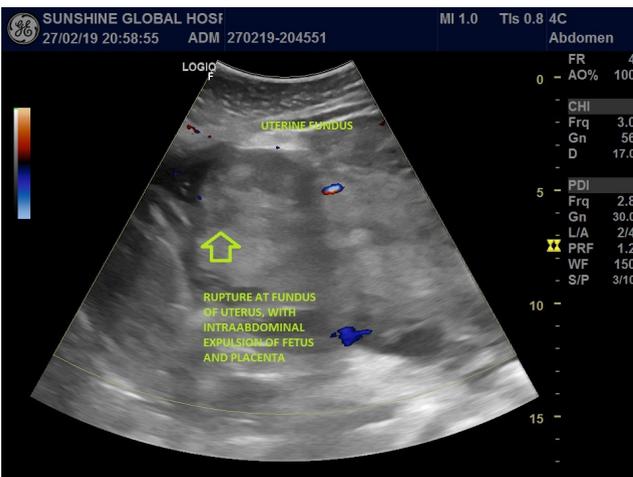


Fig. 3:

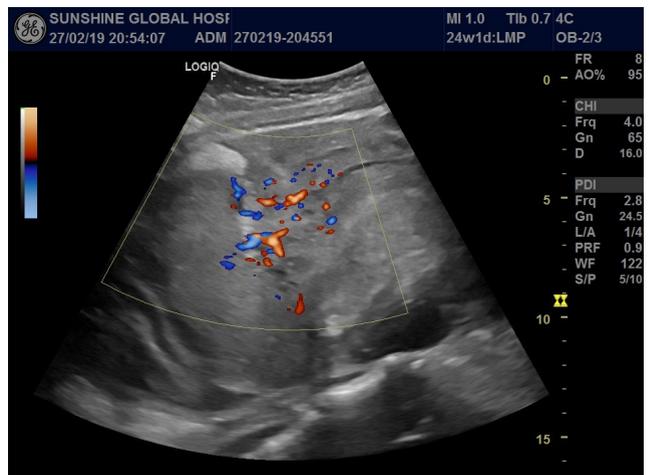


Fig. 6:



Fig. 7:

## 2.2. Case 2

Mrs.MM aged 26 years primigravida admitted to our hospital in Hypovolemic shock with systolic Blood Pressure 60 mm of hg with unconsciousness (GCS 8). She had a history of diagnostic laparoscopy with hysteroscopy for primary infertility with removal of lateral septum as uterine cavity was small so lateral metroplasty done followed by IVF four months back. She underwent laparotomy for rupture uterus & blood transfusion, repair of uterus was not possible as torrential bleeding present so with informed consent decision of hysterectomy taken. Her post operative stay in hospital was uneventful.

26 years primigravida h/o IVF conceived admitted to our hospital in emergency department with abdominal pain, loose stool & vomiting since 1 days. No H/O bleeding & leaking P/V. H/O laparo-Hysteroscopy done in April 2018. I/O – Uterine cavity small, lateral metroplasty done to expand the cavity. O/H – Primi LMP - 11/10/18, EDD- 18/7/19. M/H – 28-30days/ 4-5 days / REG / PF / Mod. O/E :Pulse 122/min& BP :60 mmof hg, RR- 28 / min. P/A – 22 wks, Tenderness + periumbilical & epigastric region, FSH 138/min P/S – no bleeding P/V – pin point Cx. USG: single live fetus of 22wks. uterine rupture with moderate hemoperitoneum. There is possible thinning of uterine wall & abnormal iso-echoic tissue in retroperitoneal region & increased placental Vascularity. Prominent placental lacunae noted. Could raise the suspicion of placenta Accreta. She underwent laparotomy. Upper segment of Uterus at fundal region was very much thinned out & ruptured from there approx 2.5 cm Rent seen, placental bed was adherent to myometrium. Live 22 wks male fetus of 550gms delivered. Repair of uterus was not possible as torrential bleeding from placental bed & Rent of the uterus seen so by seeing patients condition & with informed consent decision of hysterectomy taken. Hysterectomy with bilateral salpingectomy done. Specimen sent for HPE. Uterine rupture likely to be due to Previous metroplasty & bleeding due to Placenta Accreta. Her post operative stay in hospital was uneventful blood transfusion given preop & postoperatively. Histopathology Report of Total Hysterectomy with Bilateral Salpingectomy & Placental Tissue :On Microscopic examination Uterus shows normal

architecture of placenta & umbilical cord. There is no villitis or chorioamnionitis. No areas of infarction is seen. Abnormal implantation of the placenta in the myometrium is noted in the form of directly implanted villi at places into the myometrium without an intervening layer of deciduas, resulting in adherence of the placenta to the uterus. This may lead to a risk of postpartum bleeding, fever & uterine rupture. The features are in keeping with placenta accrete. Fallopian tubes & cervix is unremarkable. Background pregnancy related changes are seen in the Endometrium.Uterine rupture likely to be due to metroplasty. And bleeding due to accreta.

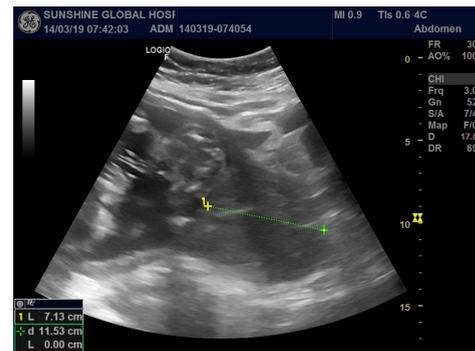


Fig. 8:



Fig. 9:



Fig. 10:

### 2.3. Case 3

38 years primigravida admitted to our hospital in emergency department unconscious in gasping condition, her pulse & BP not recordable. Immediate resuscitation started f/b intubation. pt revived back & shifted to ICU for further management. H/O severe diarrhea vomiting n severe anemia for which pt took t/t. H/O lapro- Hysteroscopy done in March 2018 Finding are uterine cavity smaller than normal, both tubes & ovaries are normal, only left side horn seen. USG S/O Rudimentary right horn with normal left uterine horn. No H/O bleeding P/V or leaking P/V. 8 yrs primary sterility. O/H – Primi Gravida twins pregnancy (IVF CONCEIVED by- ED three month back) M/H – 28-30days/ 4-5 days / REG / PF / Mod LMP- 22/2/18. She underwent exploratory laparotomy with evacuation of hemoperitoneum with hysterectomy for rupture uterus with removal of placental tissue from pouch of Douglas. There was Bucket Handle tear in posterior wall of uterus. One fetus & placenta was implanted in pouch of douglas & colon. Another fetus in uterine cavity which was diagnosed at the time of laparotomy. One fetus was floating in pelvis & placenta in pouch of Douglas. Repair of uterus was not possible as torrential bleeding present from placental bed & Rent of the uterus so by seeing patients condition & with informed consent decision of hysterectomy taken. Hysterectomy with bilateral salpingectomy done. Specimen sent for HPE. There was continuous oozing from pouch of Douglas which was obliterated with purse string sutures vertically drain kept. Blood transfusion given preop & postoperatively.

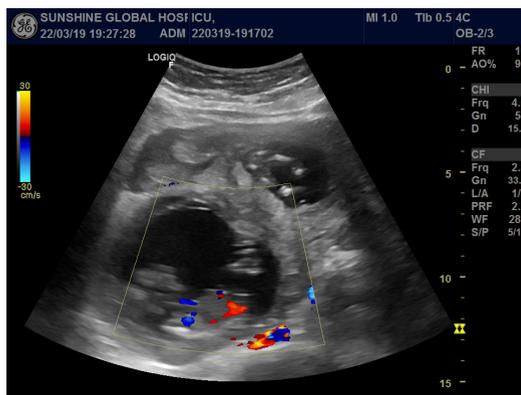


Fig. 11:

### 3. 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



Fig. 12:



Fig. 13:

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 4 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

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

#### 4. Conclusion

We have emphasized on the importance of keeping medical history, clinical examination and record keeping.

Ultrasound findings of intraperitoneal fluid collection with an intrauterine pregnancy do not exclude uterine rupture or ectopic pregnancy. Uterine rupture should be first ruled out in all pregnant women presented with acute abdominal pain regardless of their gestational age. Search for non-gynecological causes in such clinical presentations can delay crucial obstetric surgical intervention that can lead to loss of obstetrics function, morbidity and mortality.

#### 5. Conflict of interest

None.

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