

*Case Report*

## Spontaneous Uterine Rupture in an Unscarred Uterus in 3<sup>rd</sup> Trimester of Pregnancy Associated with a Hydrocephalic Baby

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### ABSTRACT

Uterine rupture is a major obstetric hazard. In India it still accounts for 5-10% of all maternal deaths due to a greater number of unbooked obstetric emergencies, often originating from rural areas with poor antenatal care. We are reporting a case of a 30 year old G<sub>3</sub>P<sub>2+0</sub>L<sub>2</sub> unbooked and uninvestigated patient admitted to the labor room with chief complaints of abdominal pain and vaginal bleeding. By history and clinical examination provisional diagnosis of rupture uterus was made and patient was immediately shifted to the operation theatre where her sub-total hysterectomy was done. Uterine rupture in an unscarred uterus is a rare entity as quoted by various studies. In this case the predisposing factors seem to be multiparity and hydrocephalic baby.

**Keywords:** uterine rupture, spontaneous, unscarred uterus, obstetrics emergency

### INTRODUCTION

Uterine rupture is a major obstetric hazard. In India it still accounts for 5-10% of all maternal deaths. <sup>[1]</sup> The prenatal mortality ranges from 80 to 95%. In developing countries, the incidence is high due to a greater number of unbooked obstetric emergencies, often originating from rural areas with poor antenatal care. As there is increase in the incidence of previous cesarean section deliveries in teaching and referral hospital, <sup>[1,2]</sup> the commonly seen uterine rupture in these centers are those involving a previous uterine scar. Rupture of an unscarred uterus may be either traumatic or spontaneous. Traumatic factors include abdominal trauma, labor induction and in particular the usage of oxytocin or

prostaglandins. Internal podalic version, assisted breech delivery, and instrumental delivery also have been linked to traumatic rupture. Spontaneous rupture is usually observed with cephalopelvic disproportion, malpresentation and delivery of a macrosomic or grossly anomalous fetus. Rupture may also develop spontaneously in grand multiparas, in congenitally abnormal uteri (e.g. Unicornuate or bicornuate) which lack the normal uterine ability to expand, in abnormal placental implantation and in women with a history of an invasive mole.

### CASE REPORT

We are reporting a case of a 30 year old unbooked and uninvestigated patient. She was G<sub>3</sub>P<sub>2+0</sub>L<sub>2</sub>, admitted to the labor

room with chief complaints of abdominal pain for 24 hours and vaginal bleeding for 13 hours. She was a multiparous patient with a history of two spontaneous vaginal deliveries. Present pregnancy included no antenatal visits with no investigation or USG examination. Her medical history revealed no disease or allergy. On general examination extreme pallor was present. Patient was pulseless and blood pressure was not recordable but she was conscious and oriented. On per abdomen examination – uterine contour was lost. Superficial fetal parts were felt with no fetal heart sounds. Vaginal examination revealed a closed and unaffected cervix. The provisional diagnosis of rupture uterus was made and the patient was rushed to the operating room for emergency laparotomy with urgent investigations. Her preoperative Hb. was 2.5 gm % and her blood group was O negative. Only 1 unit of O- blood was available which was transfused. On opening the abdomen, a hydrocephalic baby (figure-1) was lying in the abdominal cavity and ruptured uterus was lying on right side. Further inspection showed right anterolateral uterine rupture extending upto the anterior cervical lip. Repair of the laceration was not possible. So a decision was taken in favor of sub-total hysterectomy (Figure-2). No other complications were noticed during the operation and estimation of blood loss was about 1500ml. Due to non availability of O-ve blood group she was transfused with 3 units of O+ve group and 4 units of fresh frozen plasma. The patient's post operative was uneventful. She was discharged in healthy condition on the 12<sup>th</sup> post operative day.

## DISCUSSION

Uterine rupture during pregnancy is a rare event and frequently results in life-threatening maternal and fetal compromise. It can either occur in women with a native unscarred uterus or a uterus with surgical

scar from previous surgery. Uterine rupture occurs when a full- thickness disruption of the uterine wall that also involves the overlying visceral peritoneum (uterine serosa) is present.



Figure 1- Dead Hydrocephalic baby



Figure 2- Specimen of Ruptured Uterus after Subtotal Hysterectomy

Meta analysis of pooled data from 25 studies in the peer- reviewed medical literature published from 1976-2012 indicated an overall incidence of pregnancy-related uterine rupture of 1 per 1,416 pregnancies (0.07%), the spontaneous rupture of unscarred uteri in developed countries the rate was 1 per 8,434 pregnancies (0.012%). [3] The normal, unscarred uterus is least susceptible to

rupture. Grand multiparity, neglected labor, malpresentation, breech extraction, and uterine instrumentation are all predisposing factors for uterine rupture. A 10 year Irish study by Gardeil et al showed that the overall rate of unscarred uterine rupture during pregnancy was 1 per 30,764 deliveries (0.0033%). No cases of uterine rupture occurred among 21,998 primigravidas and only 2 (0.0051%) occurred among 39,529 multigravida with no uterine scar. [4] Many authors have considered multiparity risk factors for uterine rupture. Golan et al noted that in 19 of 61 cases (31%), uterine rupture occurred in women with parity of more than 5. [5] Schrinisky and Benson found that 7 out of 22 women (32%) who had unscarred uterine rupture had a parity of greater than 4. [6] In a study by Mokgokong and Marivate, the mean parity for women who had pregnancy-related uterine rupture was 4. [7] Despite the apparent increase in the risk of uterine rupture associated with high parity, Gardeil et al found only 2 women with uterine rupture among 39,529 multigravidas who had no previous uterine scar (0.05%). [4] Schrinisky and Benson reported 22 cases of uterine rupture in gravidas with unscarred uteri. Nineteen occurred during labor (86%), and 3 occurred before labour (14%). This percentage was markedly different from that of gravidas with a previous uterine scar, for whom the timing of uterine rupture between labor and the antepartum period was nearly evenly distributed. [6] Early surgical intervention is usually the key to successful treatment of uterine rupture. Therapeutic management is a total or subtotal hysterectomy. The repair can be done and help 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. [8] For this reason, it has been recommended that women with previous uterine rupture undergo elective caesarean

deliveries as soon as fetal lung maturity can be demonstrated. [8] Uterine rupture of an unscarred uterus is associated with significant morbidity and mortality. Schrinisky and Benson [6] in their study, found a maternal and fetal mortality rate of 20.8% and 64.6%, respectively. The most critical aspects of treatment in the case of uterine rupture are establishing a timely diagnosis and minimizing the time from the onset of signs and symptoms until the start of definitive surgical therapy. As a rule, the time available for successful intervention after frank uterine rupture and before the onset of major fetal mortality is only 10-37 minutes. [9] Therefore, once the diagnosis of uterine rupture is considered, all available resources must quickly and effectively be mobilized to successfully institute a timely surgical treatment that results in favorable outcomes for both the newborn and the mother. Because of the short time available for successful intervention, the following 2 premises should always be kept firmly in mind, first to maintain a suitably high level of suspicion regarding a potential diagnosis of uterine rupture especially in high risk patients and secondly when in doubt act quickly and definitively.

## CONCLUSION

In our case there was no history of uterine scarring, so the main predisposing factors in the case were multiparity and poor nutritional status of patient. Uterine rupture is a rare but often catastrophic complication with an overall incidence of approximately 1 in 1,538 pregnancies (0.07%). The vast majority of uterine rupture occurs in women who have uterine scars, most of which are the result of previous cesarean deliveries. The most consistent early indicator of uterine rupture is the onset of prolonged, persistent and profound fetal bradycardia. Surgical intervention after uterine rupture in less than 10-37 minutes is essential to minimize the risk of permanent perinatal

injury to the fetus. However, delivery within this time cannot always prevent severe hypoxia and metabolic acidosis in the fetus or serious neonatal consequences.

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