

# A Newfound Breach in Repeat Vaginal Delivery: An Unscarred Uterine Rupture Case Report

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## Background

Like the rupture of any internal organ, spontaneous rupture of a gravid uterus is often traumatic and may result in devastating outcomes for both mother and fetus. [2-3] Most uterine ruptures occur in women with a past medical history of transmyometrial surgical incision, most commonly caesarean delivery or myomectomy. [3] However, the rare occurrence of rupture of an unscarred uterus appears to be increasing in incidence. It is estimated to occur in between 1 in 5,000 and 1 in 19,765 pregnancies.[3] Unscarred uterine rupture is associated with both a higher maternal and neonatal morbidity when compared to cases of rupture of the scarred uterus.[3] Recognition of additional risk factors for spontaneous uterine rupture is critical to prevention of future negative maternal and neonatal outcomes.[1-2]

## Objectives

- Report a case of spontaneous unscarred uterine rupture without readily identified classic presentation
- Review known risk factors for uterine rupture [4-6] including those that may be less recognized
- Hypothesize unknown additional risk factors for unscarred uterine rupture

## Case Report Details

A 35 year old Spanish speaking G3P2002 at 38 weeks and 4 days by LMP admitted to Labor and Delivery for “painful contractions and leaking fluid”.

- Pregnancy complicated by advanced maternal age, obesity and history of gestational diabetes in a prior pregnancy
- At 07:23 she was found to have spontaneous rupture of membranes with meconium, cervical dilation to 4 cm, 40% effacement and -2 station and category 1 fetal tracing
- Vitals significant for blood pressure of 160/107 with painful contractions that improved to 133/63 after epidural placement
- Urine protein to creatinine ratio was 0.31 leading to a diagnosis of preeclampsia without severe features

Table 1: Risk Factors for Uterine Rupture [4-6]

Previous caesarean deliveries	Advanced maternal age ( $\geq 35$ years old)
Trial of labor after cesarean section (TOLAC)	Overdue pregnancy
Laparoscopic or abdominal myomectomy	Dystocia
Adenomyomectomy	Macrosomia
Uterotonic drugs (oxytocin, prostaglandins)	Multiple Gestation
High parity (gravid $\geq 4$ )	Abnormal placentation (e.g., placenta accreta, increta, or percreta)
Weakness of myometrium due to trauma	Short interpregnancy interval
Uterine anomalies	Prior cerclage

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## Labor Course

- 07:23 to 19:45: Progressed to an anterior lip at zero station with oxytocin augmentation and had intermittent category 2 fetal tracings requiring intrauterine pressure catheter and fetal scalp electrode placement with amnioinfusions
- 19:46 to 20:15: Trial of pushing without change in station and discontinued due to mother’s report of intense pain and anesthesia called to adjust epidural dose
- 20:55: Change in care team with confirmed cervical exam of complete and 0 station and discussed with parents potential for cesarean delivery for possible failure to descend or fetal intolerance of second stage of labor, attempted to labor down
- 21:30: Five minute variable deceleration that responded to repositioning, station unchanged, mother desired longer attempt to labor down
- 22:20: Recurrent variables without fetal descent, obstetric service consulted for cesarean with tubal ligation, risks, benefits and alternatives discussed with interpreter service
- 00:24: Deep variable deceleration to 60 bpm lasting 2 minutes, patient moved to operating room and recheck of FHT in OR revealed rate of 120 bpm
- 00:47: Upon dissection into the abdomen, there was hemoperitoneum and the fetus was noted to be within the abdominal cavity
- The neonate was noted to have APGARs of 2 at one minute, 6 at five minutes and 9 at ten minutes and was taken to the NICU on CPAP
- The patient was noted to have an area of abnormal yellow tissue with friable appearing surrounding uterine wall at the area of rupture

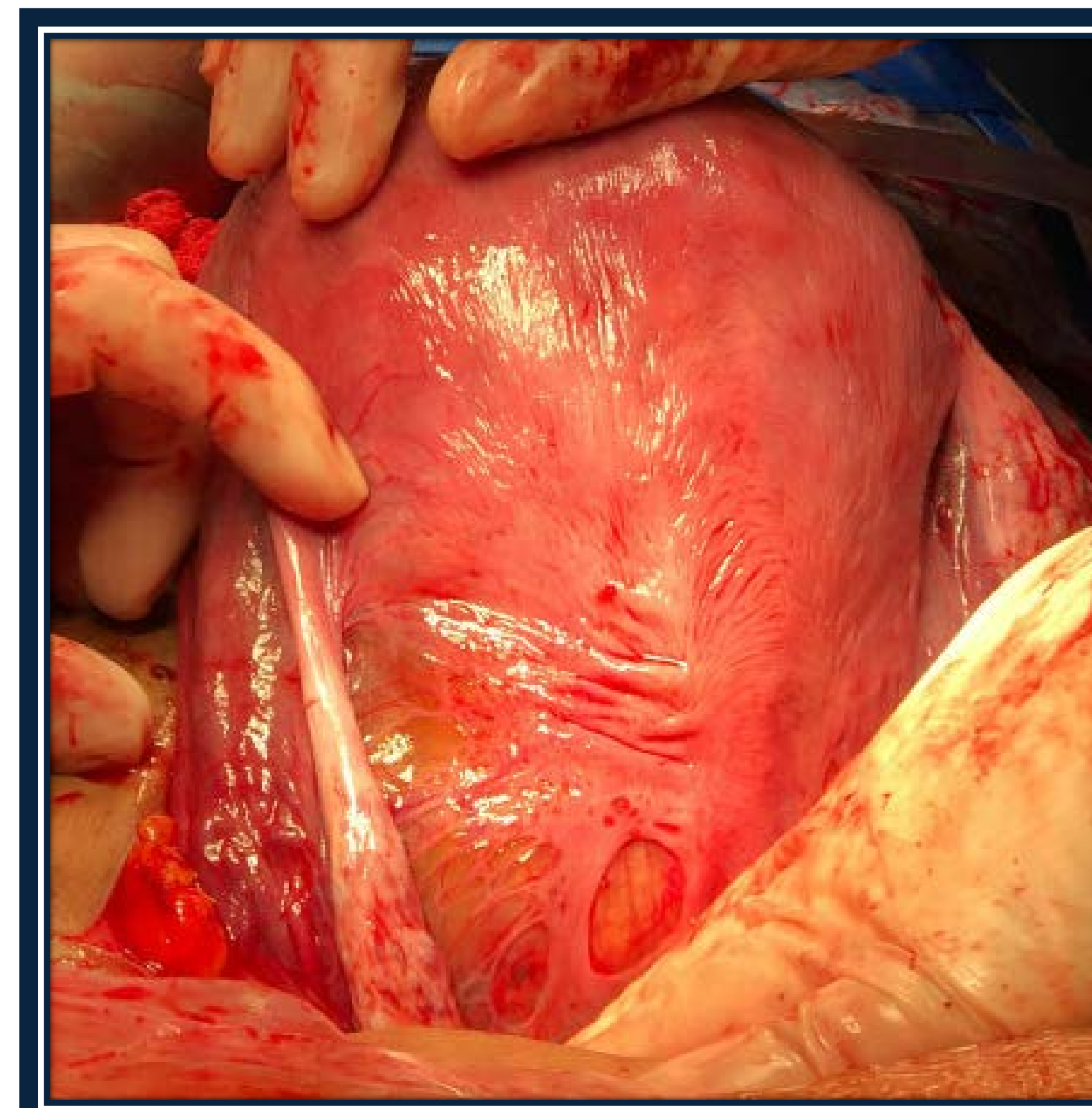


Figure 1: Intraoperative photo of exteriorized uterus with areas of abnormal uterine tissue

## Discussion

This case serves as a reminder that even in patients for whom a positive outcome is anticipated, physicians should remain vigilant and keep a broad differential diagnosis as treatment unfolds.

This patient had no prior surgeries of any kind creating a sense of security that she was low risk for such a major complication of labor. Review of uterine rupture risks (Table 1), reveals advanced maternal age. Additionally, there may have been questions of possible fetal macrosomia with her history of gestation diabetes in a prior pregnancy and no formal glucose testing this pregnancy. In isolation or taken together, these conditions would not have changed management of the patient.

The classic presentation of uterine rupture includes sudden persistent abdominal pain, loss of fetal station and non-reassuring fetal heart tones. The patient did not complain of pain at the time of deceleration when presumed rupture occurred. She also was not actively pushing for the physician to appreciate a change in fetal station. Subtle difference in the evaluation of station may not have been apparent given there was a transition to new care team.

Further history was negative for pelvic infections or signs of endometriosis. The only uterine instrumentation of her uterus was a single levonorgestrel IUD placed and removed without complication. Given the increased IUD use in the United States, this case raises the question of whether the use of IUDs is a risk factor for unscarred uterine rupture.

Fortunately this patient’s post operative course was only complicated by an ileus and her newborn had a short stay in the NICU and was discharged home without complication.

## Conclusion

- Those providing obstetric care should consider additional risk factors for unscarred uterine rupture as a rare complication
- Further research should be done to identify potential risk factors for rupture of an unscarred uterus including history of intrauterine contraception device use

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