

Trial of Labor After Cesarean Section Resulting in Rupture of the Uterus, Bladder, and Vagina

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Background:

Trial of labor after cesarean section (TOLAC) is an acceptable alternative to elective repeat cesarean section (CS) if obstetrical indications for CS are absent. These indications are shown in Table 1.

Uterine rupture is a rare but serious complication that can arise during TOLAC. Uterine rupture involves a full thickness disruption of the muscle and serosa of the uterus.

Rupture of other organs are even more rare but still possible.

Table 1: Obstetrical Indications for Cesarean Section

Absolute

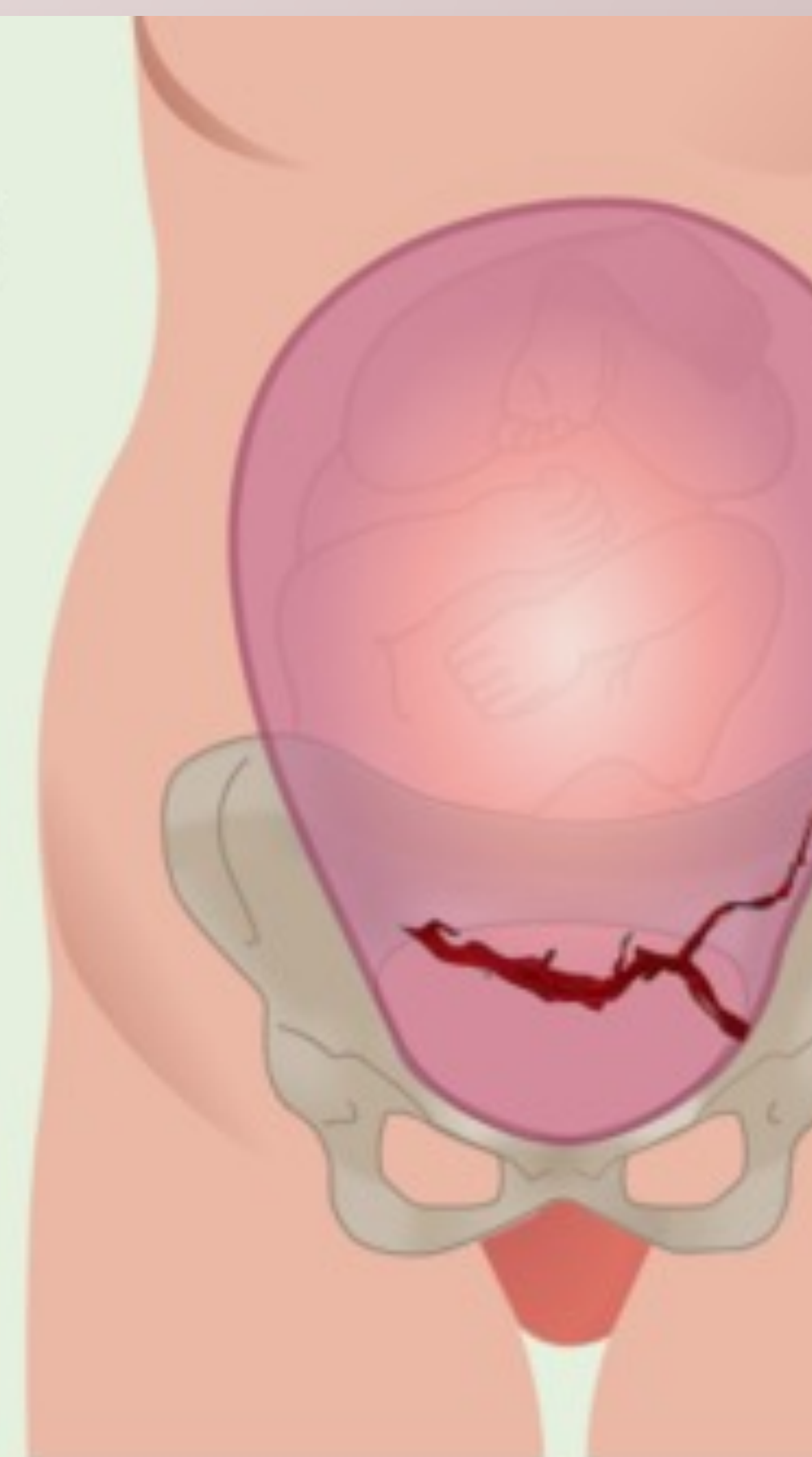
- Labor Dystocia
- Abnormal/Indeterminate/Non-reassuring Fetal Heart Rate Tracing
- Fetal Asphyxia or Fetal Acidosis
- Umbilical Cord Prolapse
- Placenta Previa
- Uterine Rupture

Relative

- Fetal Malpresentation
- Multiple Gestation
- Eclampsia and HELLP syndrome
- Suspected Fetal Macrosomia
- Chorioamnionitis
- Maternal Pelvic Deformity
- Disproportion of Maternal Pelvis
- Previous Cesarean Section

Uterine Rupture is a disruption of the uterine muscle extending to and involving the uterine serosa or disruption of the uterine muscle with extension to the bladder or broad ligament. RCOG (2007)

Uterine Dehiscence is defined as disruption of the uterine muscle with intact uterine serosa. RCOG (2007)



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Case Description:

47 year old G8P7 woman with a history of two prior CS's and short interval pregnancy, presented with large for gestational age fetus with suspected trisomy 21 and known cardiac defects. Despite her risk factors, the patient insisted on TOLAC.

During the second stage of labor the patient pushed with a category II fetal heart rate (FHR) tracing, minimal descent of the fetus, and breakthrough abdominal pain despite adequate dermatomal coverage by the epidural previously.

Upon entry into the abdomen, complete uterine rupture with the fetus in the abdomen, as well as bladder and vaginal rupture were noted. The obstetric and urologic team successfully repaired the organs achieving reasonable hemostasis.

Throughout the case, the patient's anesthetic was maintained by periodic epidural dosing with minimal intravenous anxiolytics.

She was monitored in the post anesthesia care unit for 24 hours and eventually discharged on post-operative day 7 with foley catheter and outpatient follow-up.

Tuesday 10 am

Wednesday 2 am

8:12 am

8:54 am

9:01 am →

9:02 am

← 12:55 pm

Induction of labor (IOL) was augmented with oxytocin and the patient successfully underwent epidural placement for labor analgesia.

After discussion, the patient agreed to undergo CS which was converted to emergent when the FHR tracing became category III.

The neonate was 5.07 kg, with APGARs of 8 and 9 at 1 and 5 minutes. Cord gas values were appropriate.

Quantified blood loss was 6.2 L, she was transfused 4 units of red blood cells, 2 units of fresh frozen plasma, and given 2 grams of fibrinogen.

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Discussion:

Other factors that increase the risk of uterine rupture are shown in table 2. Classical signs of uterine rupture are shown in table 3.

Signs of bladder and vaginal rupture are shown in table 4.

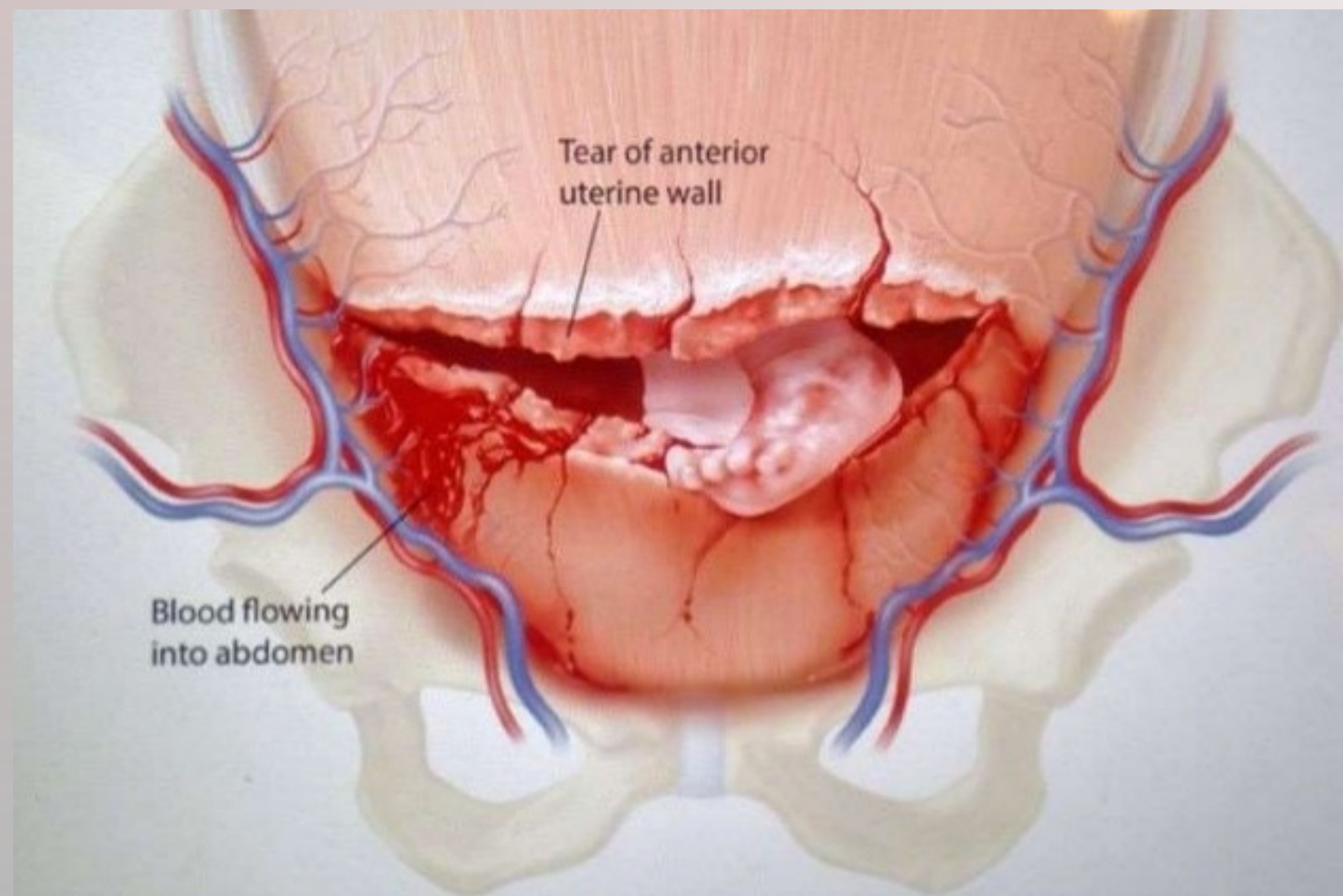


Table 2: Risk Factors for Uterine Rupture

- History of Uterine Scarring from prior Cesarean Section or otherwise
- Multiple Prior Cesarean Sections
- Augmentation of Labor with Oxytocin
- Parity Greater than 3
- Short Interval Pregnancy
- Advanced Maternal Age

Table 3: Classic Signs of Uterine Rupture

- Breakthrough Abdominal Pain
- Non-reassuring Fetal Heart Rate (FHR) Tracing
- Failure of Descent of the Fetus
- Vaginal Bleeding

Table 4: Signs of Suspected Bladder and Vaginal Rupture

- Bloody Urine
- Decreased Foley Output
- Vaginal Bleeding

Conclusion:

This patient appropriately underwent emergent CS after presenting with some classical signs of uterine rupture.

Bladder and vaginal rupture are rarely described in the literature and more difficult to diagnose, but there are signs that can indicate their occurrence.

With appropriate resuscitation, these cases can be safely performed under neuraxial anesthesia.

References

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