

Anesthetic Management in a Parturient with Uterine Rupture



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INTRODUCTION

- Uterine rupture is a life-threatening peripartum event that can lead to maternal-fetal morbidity and mortality.
- Risk factors for uterine rupture include TOLAC, grand multiparity, fetal macrosomia, induction of labor and chronic hypertension.
- We present a parturient with history of macrosomia and subsequent uterine rupture and the anesthetic challenges of her management.

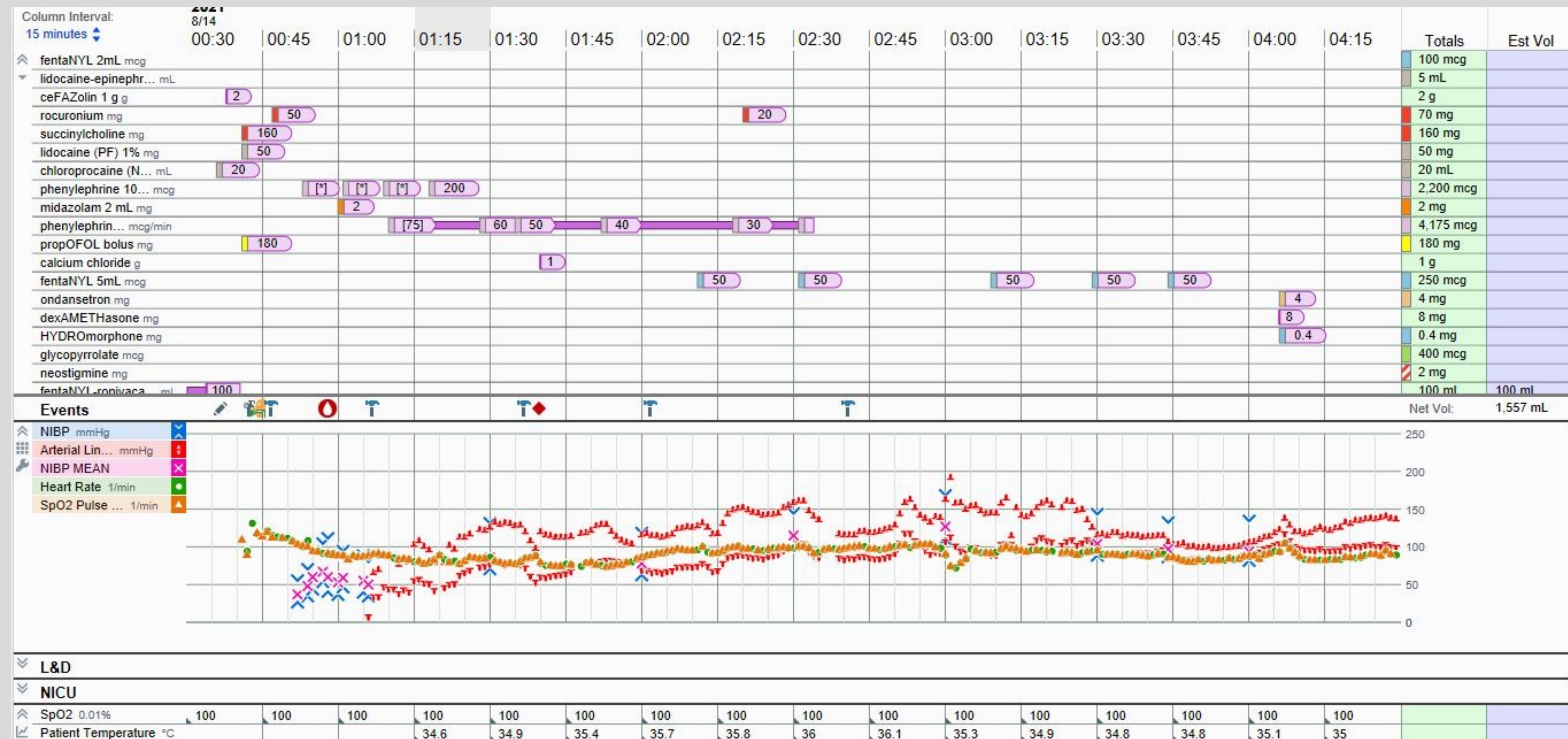
CASE DESCRIPTION

- A morbidly obese 33 yo G6P3A2 at 39 weeks gestation with history of poorly controlled chronic hypertension, macrosomia, and short interval pregnancy was admitted from clinic for elevated blood pressure and oligohydramnios. She underwent induction of labor with vaginal misoprostol and a labor epidural was placed without issue. Two hours later, an episode of deep variable decelerations with tetanic contractions was noted.

CASE DESCRIPTION

- She was artificially ruptured and subcutaneous terbutaline was given with reduction in contractions and improvement in fetal heart tones. After two hours, recurrent, and persistent decelerations to the 60s were noted. Repeat cervical exam revealed loss of station from prior cervical exam of 10cm dilation. STAT C-section was called for presumed uterine rupture.
- In the OR, three minutes after dosing her labor epidural with 20mLs chloroprocaine 3%, she was disoriented and complained of significant abdominal pain. Due to the urgency and concerns of the surgeons, general anesthesia with rapid sequence induction was initiated.
- Initially, noninvasive blood pressures were difficult to obtain as she was significantly hypotensive with systolic pressures in the 50s. A radial arterial line was placed for closer hemodynamic monitoring, phenylephrine boluses were given, and a subsequent infusion was started to maintain mean arterial pressure in the 60s.
- Upon entering the abdomen, the surgeons noted the fetus and placenta to be free-floating with meconium. A 10cm posterior lateral uterine defect involving the right uterine artery and broad ligament was noted and in active hemorrhage. MTP was activated with the plan of a hysterectomy.
- She received 6 units of packed RBCs and 2 units of fresh frozen plasma intraoperatively with a 4L EBL.
- Her postpartum course was complicated by acute asymptomatic blood loss anemia with stable hematocrit, and she was discharged home 5 days later. The infant was discharged home after 2 weeks in the NICU for management of moderate hypoxic ischemic encephalopathy, status post hypothermic cooling and seizures.

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DISCUSSION

- In the setting of uterine rupture, cesarean delivery is indicated, and if severe, hysterectomy is the definitive treatment².

Risk Factors	Signs and Symptoms
Grand multiparity	Loss of fetal station
h/o fetal macrosomia x2	Abnormal fetal heart
Short interval pregnancy	Significant hypotension
Uterotonic for induction of labor	Abdominal pain

- In hemodynamically stable mothers with abnormal fetal heart rate patterns, epidural anesthesia may be appropriate.
 - Existing working labor epidural may not cover the pain associated with uterine rupture².
- In hemodynamically unstable mothers with fetal compromise, general anesthesia is preferred.
- Early recognition of uterine rupture with a team-based multidisciplinary approach is crucial to ensuring a positive outcome for mother and baby.

CONCLUSION/ FURTHER QUESTIONS

- What precautions could be taken to prevent delay in recognition of profound hypotension associated with uterine rupture in the setting of neuraxial anesthesia?
 - Unaware of labor details/progression until in the OR
 - Administration of pressor after dosing of epidural
 - Increased morbidity with rupture in an unscarred uterus³
- How can anesthesiologists prepare in advance for such obstetric emergencies?
 - Communication with obstetricians, nurses and midwives
 - Simulation

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