



Introduction

- Optimal blood pressure range during cesarean delivery in women with severe hypertension and preeclampsia remains unknown.
- Drugs to manage hypertension may alter responses to vasopressors during surgery.

Case

- 41 y/o G5P2A2 at 24 wks, 61kg, to undergo cesarean delivery
- Chronic hypertension, baseline BP 180-200/100-120 mmHg;
- Current medications: amlodipine 10 mg QD, labetalol 400 mg BID, hydralazine 100 mg TID, furosemide 160 mg BID
- Insulin-dependent diabetes, with diabetic myonecrosis (large, tender RLE)
- Chronic kidney disease, on dialysis (but non-compliant)
- Anemia
- Platelets 30-50 /mm³
- Previous cesarean delivery (x2)

Preparations for Surgery

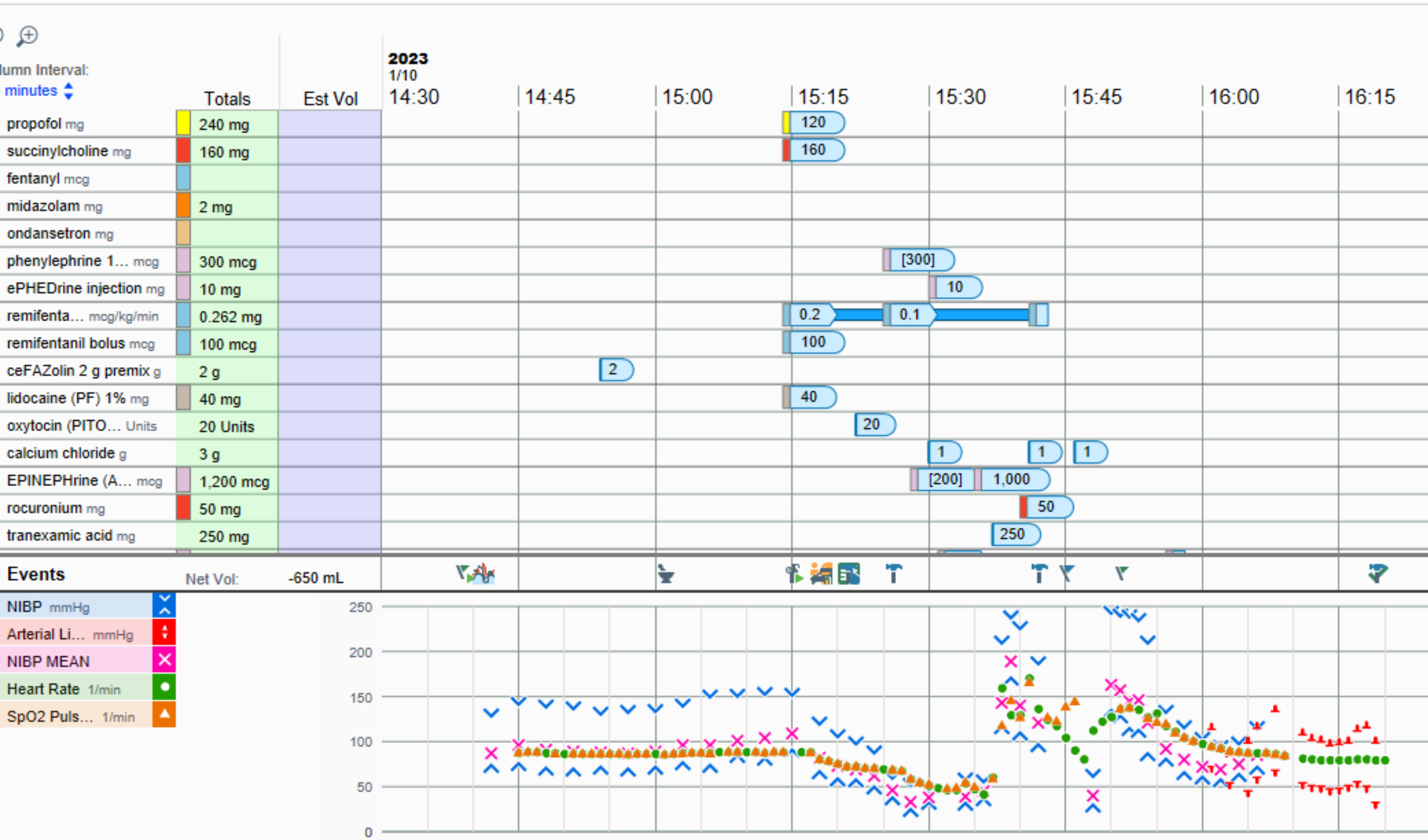
- Magnesium 4g loading
- Platelet transfusion (1u)

Anesthesia Plan

- General anesthesia
- Remifentanyl bolus + infusion – NICU notified
- Intramuscular oxytocin 20u
- TAP block

Intra- and Post-operative Course

- Time 0: anesthesia induction – with remifentanyl (100 mcg) + infusion (0.2 -> 0.1 mcg/kg/min)
- +2 min: Intubation, surgery start
- +8 min: delivery – baby response appropriate for age
- +8 min: intramuscular oxytocin 20u
- +9 min: BP decreasing, poor response to phenylephrine, ephedrine
- +11-13 min: BP, HR, ET CO₂ continued to decrease to 50-60/25-35 mmHg, epinephrine given, notifying surgeon of possible arrest, additional surgeons summoned
- +15 min: PEA, loss of pulse waveform, Code Blue activated
- +15 min: removed tilt, immediate CPR, epinephrine, rapid surgical closure
- +17 min: trauma team placed femoral access cannulas
- +20 min: a-line under ultrasound, blood samples drawn
- +21 min: ROSC achieved, 1000mcg vaginal misoprostol placed, no additional oxytocin
- +56 min: surgery completed, transport to CT angiography to rule out PE, ROTEM normal
- POD 1, extubated – continued dialysis, hypertension managed with carvedilol 25mg BID, hydralazine 75mg TID, Nifedipine XL 30
- POD15: discharged



Case Analysis

- Severe hypertension remains a challenge
- Multiple anti-hypertensive drugs may exacerbate intraoperative hypotension
- Magnesium, boluses of oxytocin add to hypotension
- Dose of intramuscular oxytocin is 10u
- Remifentanyl use had no effect on premature baby, but may contribute to hypotension
- A-line placement prior to potential crisis may be helpful

Learning Points

- Early recognition and warning of cardiac events, with effective communication
- Hospital-wide response system
- Regular simulations with practice updates
- Individual planning for hypertensive women

References

- Dyer RA, et al. Hypertensive disorders. In: Chestnut DH, et al. Chestnut's Obstetric Anesthesia: Principles and Practice. 6th Ed. pp 840-878
- Anastasian ZH et al. The effect of antihypertensive class on intraoperative pressor requirements during carotid endarterectomy. Anesth Analg 2011; 112: 1452-1460.
- Svanström MC, et al Signs of myocardial ischaemia after injection of oxytocin: a randomized double-blind comparison of oxytocin and methylergometrine during caesarean section. Brit J Anesth 2008; 100: 683-683.

