Breathless After Birth: Flash Pulmonary Edema Following Cesarean Delivery Anisha Javvaji B.S, Adam Bindelglass M.D, Morgane Factor M.D, Tiffany Angelo M.D, Bahaa E. Daoud M.D

Background

Acute pulmonary edema is a rare but life-threatening complication in pregnancy (approx. 0.08% incidence), more common in the **immediate postpartum period** (Ram 2025).

Risk factors include **advanced maternal age**, **obesity**, **preeclampsia**, and **cesarean delivery** (Ram 2025).

In preeclampsia, **increased pulmonary capillary permeability** and **fluid shifts** predispose patients to pulmonary edema.

Epidural anesthesia helps **reduce both preload and afterload but fluid management must be cautious** (Alves 2023).

Liberal fluid administration in preeclamptic patients has been associated with a **higher incidence** of pulmonary edema (Thornton 2021).



Case



44-year-old G1 at 36.6 weeks with obesity, and type 2 diabetes now being induced for preeclampsia without severe features.

Due to minimal descent and nonreassuring fetal heart tracing, the decision was made to proceed with cesarean delivery after 32 hours. She received a total of 3700 mL of Lactated Ringer's over that period of time.

The patient underwent an uncomplicated cesarean section under epidural anesthesia and received a total of 1000 mL of crystalloid during the case. Quantitative blood loss was 1000 mL and urine output was 439 mL.



Post-op: Oxygen requirement 3-4L NC (O2 sat ~93-94%); lungs clear. Assumed atelectasis.

45 minutes later in PACU: increased O2 needs (8-10L NRB), anxiety, sudden severe hypoxia, cardiac arrest → required 15 min CPR for ROSC.



Intubation complicated by patient positioning and frothy secretions \rightarrow flash pulmonary edema suspected.

Developed seizure-like activity post-ROSC \rightarrow treated with Versed and Magnesium \rightarrow consistent with eclampsia.



Transferred to ICU and underwent targeted temperature management. Discharged home on POD #7 with no neurologic deficits and no recollection of event.



Postpartum pulmonary edema can present suddenly and requires high clinical suspicion in preeclamptic patients, even after uncomplicated deliveries.

This case highlights the importance of anticipating pulmonary complications in high-risk obstetric patients and closely monitoring oxygen requirements in the PACU.

In the postpartum period, it is necessary to consider causes of cardiac arrest that present with respiratory distress including amniotic fluid embolism, hypovolemic shock from postpartum hemorrhage, eclampsia, pulmonary embolism, and peripartum cardiomyopathy.





Epidural anesthesia is preferred in preeclampsia, but after it wears off patients may experience an increase in sympathetic tone, potentially exacerbating fluid shifts.

IV fluid management should be conservative in preeclamptic parturients; avoid liberal fluid boluses.

