

Peripartum Acute Pulmonary Oedema in Severe Preeclampsia: Challenges During Emergency Caesarean Section

Bhagyashree Soor¹, Kruthi Tellakula^{2*}

¹Department of Anesthesiology, Dr. D. Y. Patil Medical College, Hospital and Research Centre, Dr. D. Y. Patil Vidyapeeth (Deemed to be University), Pune, Maharashtra, India.

²Department of Obstetrics and Gynecology, Dr. D. Y. Patil Medical College, Hospital and Research Centre, Dr. D. Y. Patil Vidyapeeth (Deemed to be University), Pune, Maharashtra, India.

ARTICLE INFO

Article history:

Received 26 February 2026

Revised 19 March 2026

Accepted 02 April 2026

We wish to report the anesthetic and perioperative management of a 32-week primigravida with preeclampsia and gestational diabetes mellitus who developed acute pulmonary edema with cardiovascular compromise immediately prior to an emergency lower segment caesarean section (LSCS) [1].

The patient was scheduled for emergency LSCS due to severe oligohydramnios (AFI 4) and non-reassuring fetal heart rate variability (Figure 1). She was receiving oral labetalol (150 mg twice daily) and metformin (500 mg thrice daily). She reported mild cough and orthopnea, weighed 105 kg (BMI 40), and had facial puffiness. There was no history suggestive of obstructive sleep apnea. Her preeclampsia workup, including hematological, biochemical, liver function, and coagulation parameters, was within normal limits.

On examination, she was tachycardic (HR 104/min) with BP 150/90 mmHg. Oxygen saturation was 93% on room air, improving to 97% with supplemental oxygen. Chest auscultation revealed minimal basal crepitations. A 12-lead ECG showed sinus tachycardia with mild ST depression. Airway assessment revealed a short neck and high Mallampati grade, and a difficult airway cart was

prepared. In view of fetal distress, the patient was taken emergently to the operating room in the lateral position without further investigations. Soon after arrival in the operating room, the patient developed rapidly progressive dyspnea and was unable to lie supine. Her vitals deteriorated (HR 130/min, BP 160/100 mmHg, SpO₂ 88%), with bilateral diffuse crepitations.

High-flow oxygen, intravenous furosemide (20 mg), and left uterine displacement were initiated, and cardiology and critical care teams were summoned. Within minutes, she became severely hypoxic and cyanosed, with SpO₂ dropping to 54% and bradycardia to 35/min.

Immediate bag-mask ventilation with 100% oxygen was instituted, followed by rapid sequence induction using propofol 2 mg/kg and succinylcholine 2 mg/kg. Laryngoscopy revealed copious frothy secretions at the glottic opening, consistent with acute pulmonary edema. The trachea was intubated with a 6.5-mm endotracheal tube, and controlled ventilation was initiated. Oxygenation and hemodynamics improved gradually. Anesthesia was maintained with sevoflurane (1.5%) in 100% oxygen and vecuronium (0.1 mg/kg). After delivery, fentanyl 100 µg, midazolam 1.5 mg, and

The authors declare no conflicts of interest.

*Corresponding author.

E-mail address: tkruthit@gmail.com

DOI:

oxytocin 3 IU IV, followed by infusion, were administered. Post-delivery, airway pressures decreased and oxygenation improved significantly. Arterial blood gas analysis initially showed severe respiratory acidosis with hypoxemia, which improved with controlled

ventilation. The neonate required intubation for a low Apgar score and was transferred to the neonatal intensive care unit. The patient was shifted to the ICU without extubation and managed with pressure-controlled ventilation.

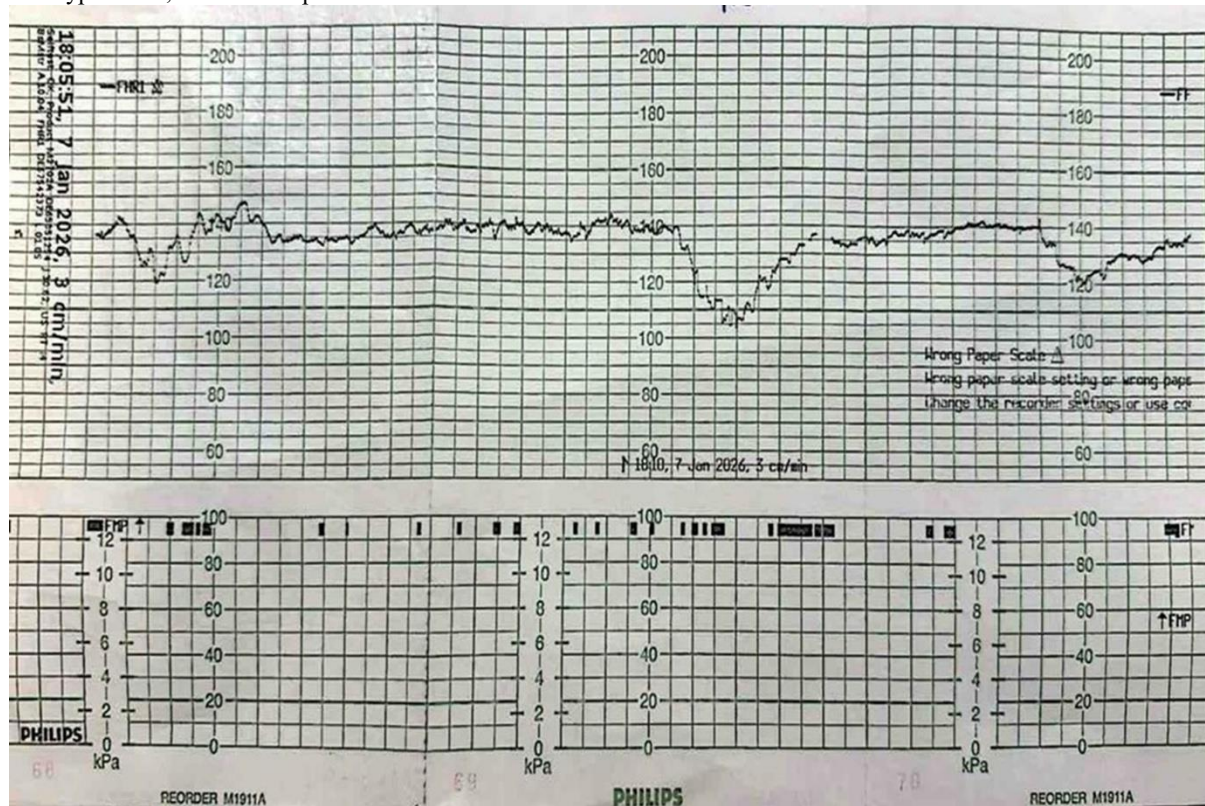


Figure 1- Non-reassuring fetal heart rate

Chest radiography revealed bilateral pulmonary infiltrates, suggestive of pulmonary edema. Echocardiography showed preserved left ventricular systolic function, mild diastolic dysfunction, right ventricular dysfunction, and mild pulmonary hypertension. Serial ECGs demonstrated transient ST-T changes related to tachycardia. Elevated troponin I levels with a downward trend suggested a non-ischemic etiology. Pulmonary embolism and cardiomyopathy were ruled out with appropriate investigations.

ICU management included fluid restriction, diuretics, magnesium sulfate infusion, antihypertensives, antibiotics, thromboprophylaxis, and ventilatory support. The patient was successfully weaned and extubated after 24 hours, followed by non-invasive ventilation and chest physiotherapy. Both mother and neonate recovered well and were discharged on the 10th postoperative day.

This case highlights the rapid onset of acute pulmonary edema in preeclampsia, the importance of early airway control, and the need for prompt multidisciplinary intervention to ensure favorable maternal and fetal outcomes [2].

References

- [1] Alves B, Cunha F, Pereira C, Alves B. Epidural anesthesia for cesarean section in a pregnant woman with acute pulmonary edema: a case report. *Cureus*. 2023;15(8): e43994.
- [2] Ahammedunni AE, Nour NB, Das K, Das Sr K. Cesarean Section in a Morbidly Obese Patient With Severe Preeclampsia and Pulmonary Edema: A Case Report. *Cureus*. 2024;16(7):e65877.