Postpartum Dyspnea, Orthopnea, and Lower Extremity Edema: Beware of a PreE-sumptive Diagnosis

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Learning Objectives

- To examine how the differential diagnosis for acute dyspnea and volume overload is modified in the postpartum setting
- To identify the criteria necessary to diagnose preeclampsia
- To understand the fundamental principles of preeclampsia management

Case Presentation

- Vital signs: Temp 38.3°C, HR 130 bpm, BP 168/110 mmHg, RR 48, and SpO2 93% on 2 liters via nasal cannula.
- Physical exam: + diaphoresis, 2+ pitting LEE, surgical site well appearing and clean/dry/intact
- Labs: see table 1 → notably, urine protein/creatinine ratio <0.3 mg/g
- Tx: IV furosemide and broad-spectrum antibiotics before transferring to the women’s hospital

Women’s Hospital Course

- Additional workup negative for DVT/PE, intrabdominal infection, and bacteremia
- Echocardiogram: normal LV size and function, with no signs of congestive heart failure
- Discharged 5 days after presentation

Final diagnosis: volume overload secondary to postpartum preeclampsia with severe features

Table: Labs in ED

- Comprehensive Metabolic Panel
  - Na 139
  - K 4.5
  - CO2 19
  - Anion Gap 11
  - BUN 21
  - Cr 0.96
  - Glucose 74
  - Ca 8
  - Albumin 1.9
  - Total Protein 5.7
  - Bili, Total 0.3
  - ALT 16
  - AST 19
  - Alb Pros 164

- Hematology
  - WBC 9.6
  - Hgb 9.7
  - Hct 29.5
  - Platelets 548
  - Neutrophils 81
  - Lymphs 2
  - Basophils 1
  - Eosinophils 1
  - Atypical Lymphs 1

- Urinalysis
  - Proteinuria <0.015
  - Hematocrit 0.14

- Urine culture

- Microbiology
  - Blood culture Negative
  - Respiratory Viral Panel Negative
  - COVID-19 Swab Negative

- Capillary Blood Gas
  - pH 7.41
  - pO2 33
  - pCO2 21
  - HCO3 13

Discussion

- Differential diagnosis for acute postpartum dyspnea
  1. Preeclampsia
  2. Postpartum cardiomyopathy
  3. Thromboembolism
  4. Anemia
  5. Asthma

- Our patient had three major risk factors for preeclampsia
  1. Chronic hypertension
  2. Multifetal gestation
  3. Obesity

- Pathophysiology of preeclampsia
  - Placental hypoperfusion → release of inflammatory factors → maternal endothelial dysfunction

- Causes of postpartum preeclampsia
  1. Subclinical disease may be exacerbated by the resorption of third-space fluid
  2. Underlying diastolic dysfunction may potentiate preeclampsia-induced pulmonary edema

- American Heart Association management guidelines
  1. Monitor blood pressure for at least 3 postpartum days
  2. Use oral nifedipine and IV hydralazine for BP control, but avoid nifedipine in heart failure with reduced ejection fraction
  3. Give 4 g load of magnesium for seizure prophylaxis

Conclusions

- Preeclampsia is a life-threatening diagnosis that must be considered in postpartum patients who develop pulmonary edema
- Preexisting cardiovascular disease increases the risk for preeclampsia
- Although internists rarely manage postpartum complications, identifying preeclampsia and understanding the fundamental management principles may prove to be life-saving

References

1. Beresin P. "Overview of the postpartum period: Disorders and complications." UpToDate.