

Anesthetic Management of a Parturient with Suspected Spontaneous Coronary Artery Dissection Undergoing Cesarean Section

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Learning Objectives

- Review anesthetic concerns in a parturient with suspected Spontaneous Coronary Artery Dissection (SCAD)
- Highlight multi-disciplinary perioperative management in high-risk obstetric patients

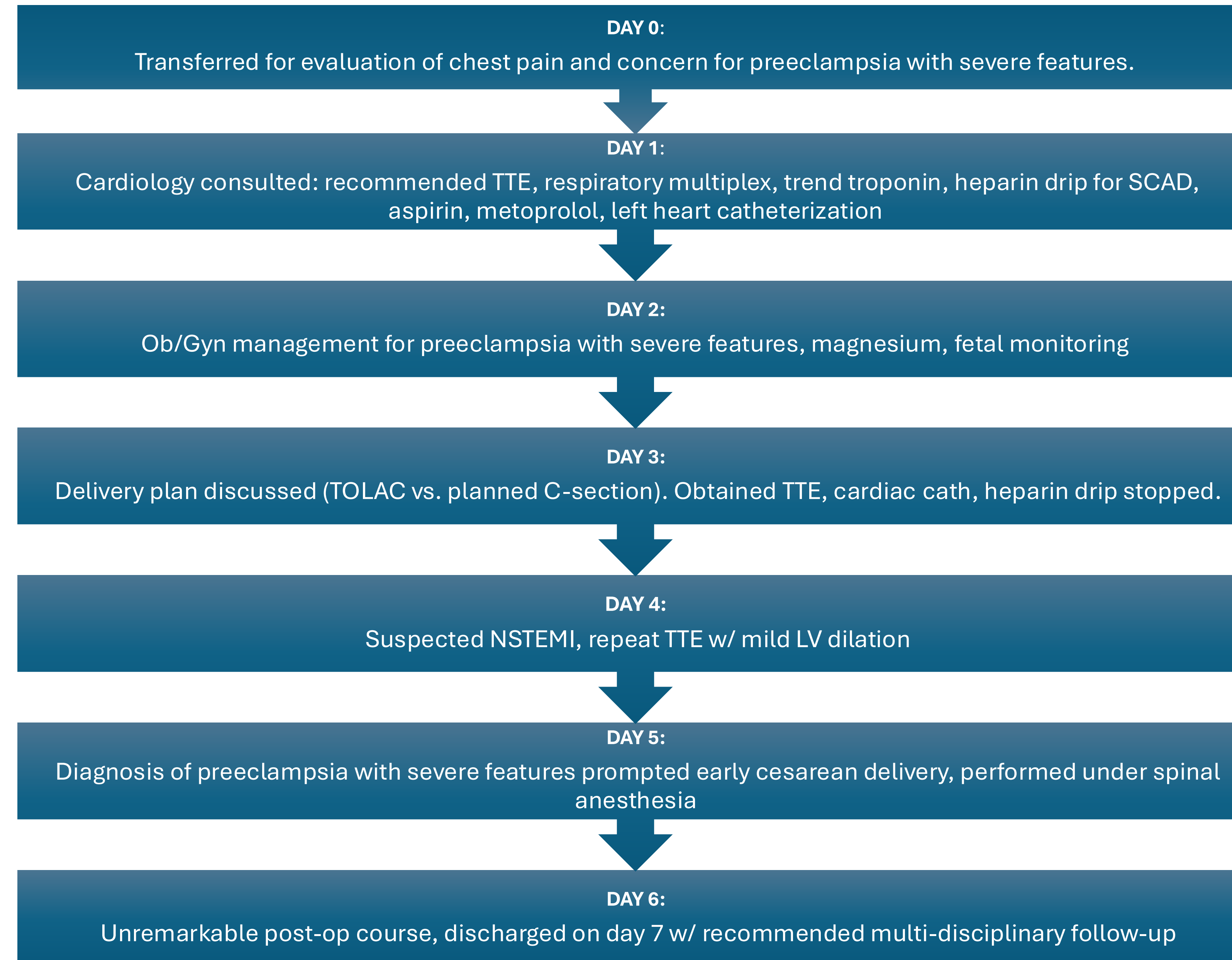
Clinical Presentation

- Patient:** 26yo G2P1001 at 31w5d
- PMH:** cholestasis, prior preeclampsia (C/S in first pregnancy)
- Presenting symptoms:** waxing/waning substernal chest pain radiating to neck, SOB, elevated BPs (peaked at 166/92), initial EKG (non-specific ST and T wave abnormality)

Workup & Diagnosis

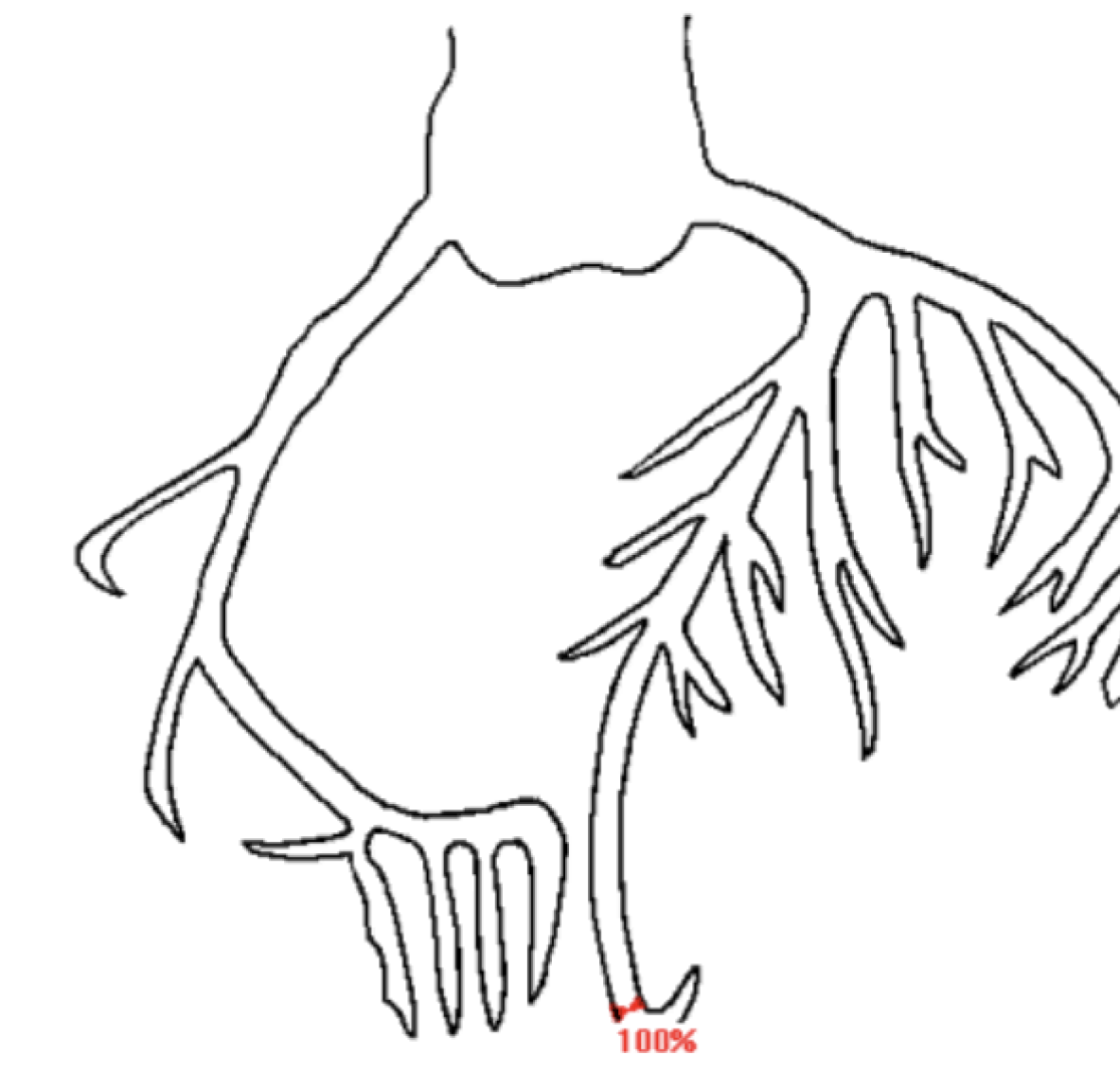
- EKG** (prior non-specific ST and T wave abnormality)
- Repeat EKG (SR with PVC, no significant ST/T wave abnormalities)
- HS troponin:** peaked at 19,716
- TTE:** LVEF 60%, normal LV, normal RV, no regional wall motion abnormalities
- Differential:** SCAD vs. coronary vasospasm vs. myocarditis.
- Cardiac cath:** normal coronaries except for possible apical distal LAD lesion with 100% stenosis (may be related to SCAD), apical cap incompletely visualized
- Clinical diagnosis:** Suspected SCAD

Hospital Course



Anesthetic Management

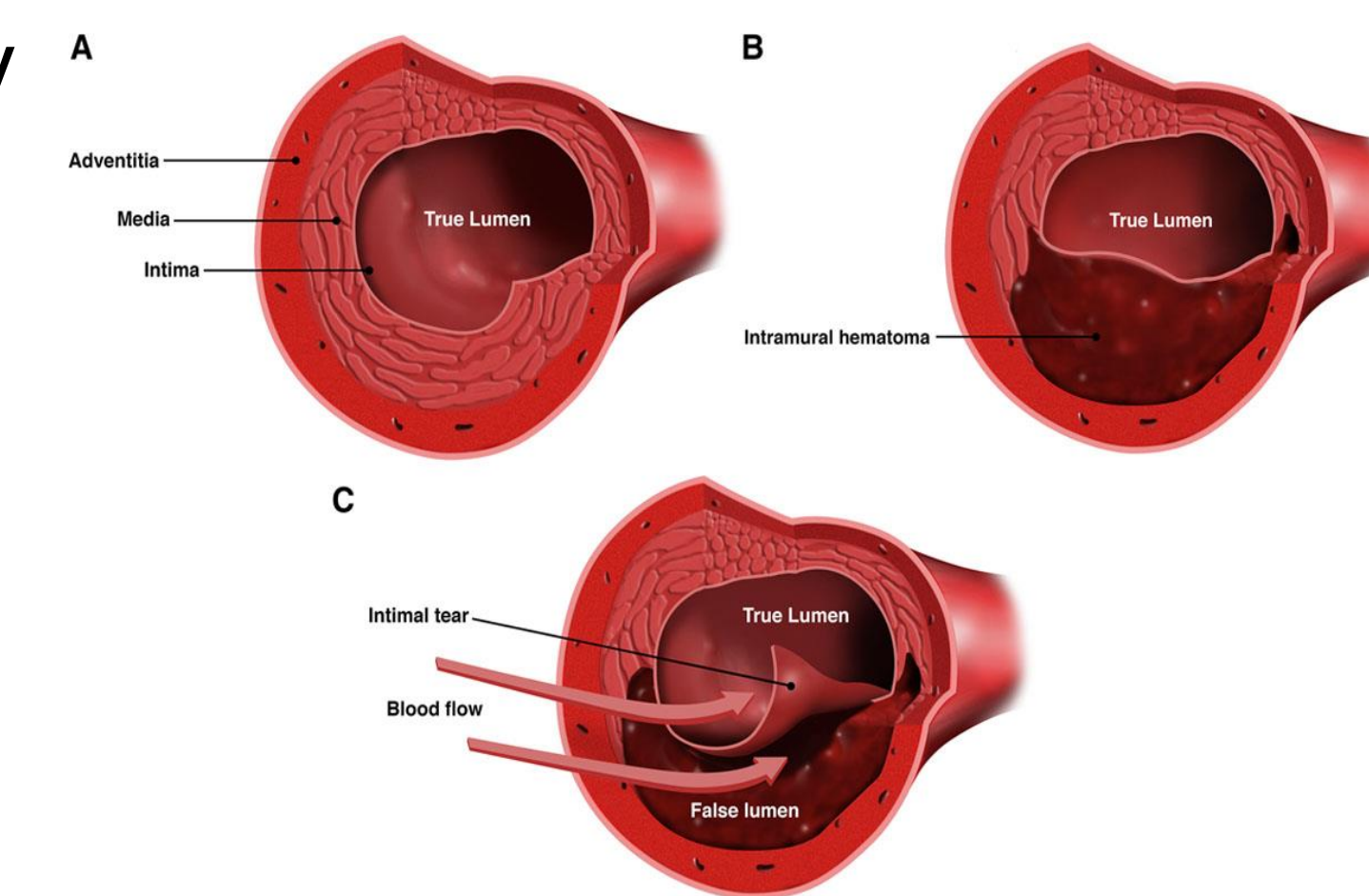
- Pre-op:** Treated with heparin drip, aspirin, beta blocker, magnesium sulfate
- Delivery plan:** Cesarean section due to preeclampsia and cardiac concerns
- Technique:** Single-shot spinal
 - Avoided GA to limit sympathetic surge and myocardial oxygen demand, supportive care with vasopressors used to maintain hemodynamic stability
- Outcome:** Hemodynamically stable intra-op course, uncomplicated cesarean healthy delivery



A. Normal coronary artery

B. Coronary artery with intramural hematoma

C. Coronary artery with intimal tear



Discussion

- SCAD is a rare but important cause of ACS in pregnancy. It involves a spontaneous separation of the coronary arterial wall resulting in intramural hematoma formation.
- SCAD can lead to compression of true lumen compression, typically in the absence of atherosclerotic disease, may lead to heart failure, arrhythmia, cardiac arrest.
- Hormonal, vascular, and hemodynamic changes increase susceptibility to arterial dissection. Potential risk factors: HTN, vascular disease, connective tissue disease.
- Neuraxial anesthesia is preferred in stable cardiac patients, caution must be taken to avoid hypotension or reflex tachycardia.
- Anesthetic considerations: maintain cardiac output and NSR, carefully titrate neuraxial anesthesia, large-bore IV access or central venous access if low CO, consider inotropes, mechanical circulatory support, ICU recovery
- Early recognition in a multi-disciplinary collaboration between anesthesiology, cardiology, obstetrics, maternal-fetal medicine is essential in optimizing outcomes.

References

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