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Annual Meeting
SOAP
Society for Obstetric Anesthesia and Perinatology
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HILTON PORTLAND DOWNTOWN HOTEL • PORTLAND, OR

SPEAKER DISCLOSURE

I have nothing to disclose.

Neuraxial Anesthesia for Vaginal Delivery in Congenital Complete Heart Block (CCHB)

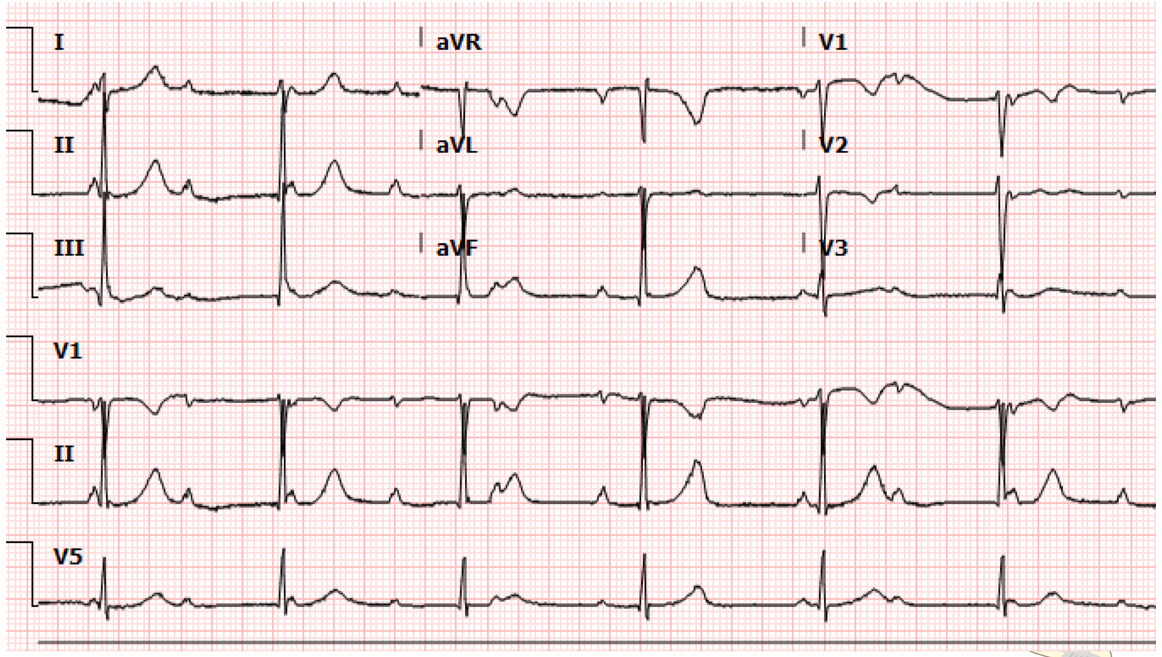
Background:

- **Congenital Heart Block Incidence:** ~1 in 20,000 pregnancies [1]
- Many remain asymptomatic due to adequate **chronotropic compensation** [1]
- Fluoroscopy needed for pacemaker insertion poses **fetal risks**, making intervention decisions complex.
- **Neuraxial anesthesia**: Can reduce sympathetic tone → unmask/exacerbate bradyarrhythmia [2]
- **Baseline HR <60 bpm**: High risk for severe peripartum bradycardia [2]
- **Aim**: Present anesthetic and obstetric management of a parturient with CCHB

[1] Sundararaman, L., Cohn, J. H., & Ranasinghe, J. S. (2016). Complete heart block in pregnancy: case report, analysis, and review of anesthetic management. Journal of clinical anesthesia, 33, 58-61. p
[2] Lesser, J. B., Sanborn, K. V., Valskys, R. etal (2003). Severe bradycardia during spinal and epidural anesthesia. Anesthesiology, 99(4), 859-866.

Case:

- **Patient Profile:** 26-year-old, gravida 2 para 1, at 35.2 weeks gestation with known CCHB.
- **Clinical Status:**
  - HR: 51–59 bpm, BP: 130–140/70–80 mmHg, SpO_2 >98%
  - Known CCHB → Early induction for **worsening conduction** concerns
  - **Multidisciplinary consultation**: OB, Anesthesia, Electrophysiology
- **Labor Management:**
  - **DPE placed** at L4–5 + **Prophylactic pacemaker pads**
  - **Initial epidural bolus**: 8 mL of 0.0625% bupivacaine (programmed intermittent)
  - Developed **HR 30 bpm**, BP 97/45 mmHg + dizziness
  - **Epidural paused**, T10 blockade confirmed
  - Treated with **10 mg IV ephedrine**, **10 µg IV epinephrine** + Crystalloid bolus → Rapid recovery
  - Epidural restarted at **6 mL q30min** (down from 8 mL)
- **Outcome:**
  - No further arrhythmic events
  - **Uneventful vaginal delivery 9 hours later**
  - Epidural bolus of 100 mcg fentanyl and 5 cc 0.125% bupivacaine 2 hours prior to delivery without issue
  - Postpartum EP study → conduction lesion near AV node but **adequate chronotropic response** → No permanent pacemaker needed



Teaching Points:

- **Asymptomatic CCHB** still poses **peripartum risk**
- **Neuraxial anesthesia** → Sympathetic tone reduction can provoke bradycardia/asystole
- **Baseline HR <60** → Increased risk of moderate/severe bradycardia
- **Management Strategies:**
  - **Coordinate delivery timing** based on maternal symptoms and fetal status
  - Prophylactic **temporary pacing pads**
  - **Titrated local anesthetic** dosing
  - **Immediate access** to vasopressors/inotropes (e.g., ephedrine, epinephrine)
  - **Multidisciplinary coordination** (OB, Anesthesia, Cardiology/EP)
- **Considerations for future patients with CCHB**
  - **Proactive Holter monitoring** before term to assess chronotropic competence
  - **Plan assisted delivery** from the outset to minimize second-stage exertion
  - **Ensure immediate access to transvenous pacing**, especially in low-resource settings
  - **Engage EP/Cardiology early** in pregnancy for pacing strategy and follow-up