# Neuraxial Anesthesia for Cesarean Delivery in a Patient with Brugada Syndrome: A Case Report and Systematic Review

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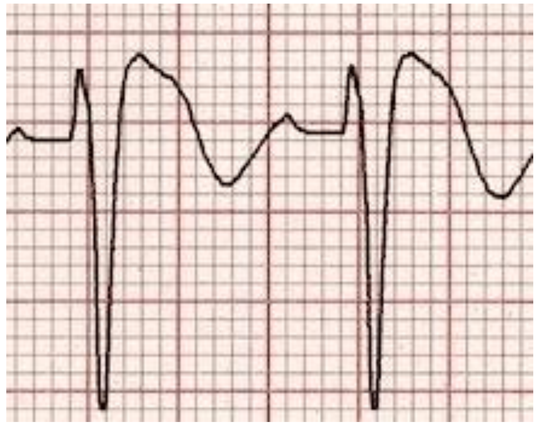
## Brugada syndrome

- An inherited disorder associated with malignant ventricular arrythmias and sudden cardiac death
- 20-30% of patients have *SCN5A* Na channel mutation

## Known drug triggers on BrugadaDrugs.org

- **Avoid**: bupivacaine, ergonovine, propofol infusion
- **Preferable to Avoid**: IV lidocaine, metoclopramide



Type I ECG (Brugada Sign)
Coved ST elevation >2mm in >1 of V1-V3 followed by negative T wave

Cheung *et al*. *Can J Cardiol*. 2021

# Case

22 yo G2P1 patient with Brugada Syndrome scheduled for repeat CS

**Relevant Hx:**

- BMI 53, Type II DM, Gestational HTN
- Previous CS under spinal bupivacaine
- Neonatal seizure led to workup
- SCN5A mutation identified in patient
- Type I-like pattern on provocation testing, leading EP to strongly recommend avoiding bupivacaine

# Intraoperative management

- **Lidocaine CSE**
- **Spinal:** 30mg lidocaine, 15mcg fentanyl and 100mcg morphine
- **Epidural:** total 15mL epidural 2% lidocaine with 1:200,000 epinephrine

**Outcome:**

- Brief episode of SVT post spinal, treated with IV labetalol and midazolam
- Remainder of course uneventful, discharged home POD3

## Systematic Review

- **Neuraxial anesthesia in patients with Brugada Syndrome**
  - 13 case reports
  - 3 case series
  - 1 retrospective cohort
  - 71 neuraxial cases (46 obstetric)
  - **8 reported cases of IT bupivacaine**

- Arrhythmias reported only for thoracic surgeries in 3 elderly men (age 56-77) with bupivacaine epidurals
  - VT, VF, provoked Brugada sign

## Learning Points:

- **Available literature is insufficient** to support or refute recommendations to avoid bupivacaine.

- **Key factors associated with risk:** dose, duration of exposure, patient phenotype

- **Alternatives available:** Lidocaine CSE or neuraxial techniques with ropivacaine may be most suitable alternatives.