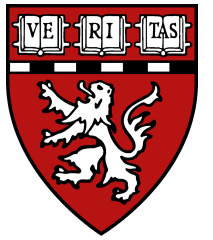


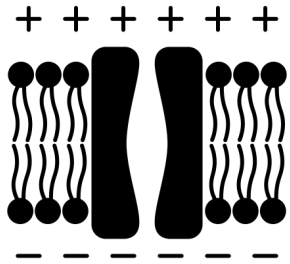


# LABOR ANALGESIA AND HEMORRHAGE MANAGEMENT IN A BRUGADA SCN5A HETEROZYGOUS PATIENT



Michael J Furdyna, MD; Allison A Mootz, MD; Joeli R Roth, MD; David J Combs, MD, PhD; John J Kowalczyk, MD  
Brigham and Women's Hospital, Boston, MA

## Background on Brugada Syndrome



### Genetic Channelopathy

Autosomal dominant mutation of cardiac Na<sup>+</sup> channels

Most commonly affected gene is *SCN5A*

Multiple mutations of varying pathogenicity

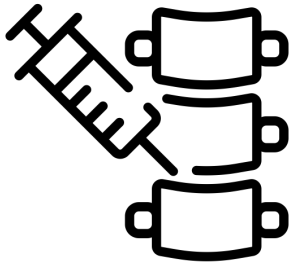


### Risk of Fatal Arrhythmia

Triggering agents may provoke lethal arrhythmias

First manifestation may be sudden death

Previously silent mutations can be unmasked



### Limited Information on Neuraxial Anesthesia

Less than 10 cases in literature

Neuraxial local anesthetics *have* provoked Brugada

No consensus on technique, agent, dosing

## Potential Triggers\*

Bupivacaine

Procaine

Other Local Anesthetics

Propofol Infusions

Methylergonovine

Metoclopramide

Acetylcholine

Ketamine

Procainamide

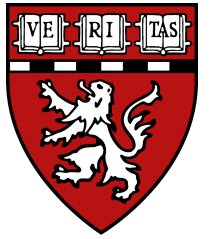
Tricyclic Antidepressants

Other Arrhythmia Precipitants (Fever, Valsalva, Volume Expansion, Electrolyte Abnormalities)

\* Not an exhaustive list



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## Presentation and Initial Management

**31 year old G1P0 at 37 weeks arrives in labor**

Heterozygous for pathogenic *SCN5A* mutation

Phenotypically silent ECG

**Strong Family History of Brugada Syndrome**

Father: cardiac arrest, ICD placement

Sibling, deceased: sudden cardiac death in infancy

Two siblings, living: Brugada-pattern ECGs

### Management

Dural puncture epidural

Ropivacaine 0.08% + fentanyl 2mcg/ml epidural mix

PIEB: 9ml q45 minutes, 10ml q10 minutes PRN

Telemetry, serial ECGs

## Postpartum Hemorrhage

**Delayed Postpartum Hemorrhage**

Estimated blood loss >1 liter on postpartum floor

Syncope, hemodynamic instability

Examination vs Dilation & Curettage required

### Management

Concern for worsening hemodynamics with spinal

Repeat dural puncture epidural

Incremental lidocaine 2% doses to appropriate level

### Postoperative Course

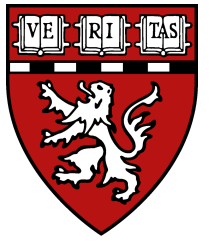
Postoperative ECGs unremarkable

Remainder of hospital course stable

Discharged to home

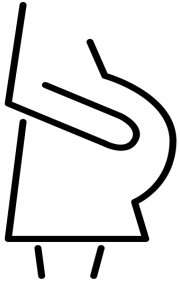


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## Discussion

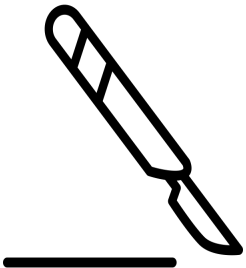


### **Brugada syndrome presents multiple challenges for obstetric anesthesiologists**

Labor analgesia

Anesthesia for operative interventions

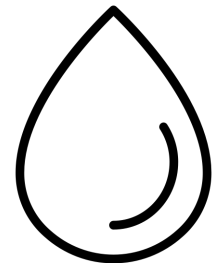
Hemorrhage management



### **Ropivacaine may be an ideal agent for labor analgesia**

First line epidural local anesthetic in many institutions

Similar pharmacokinetics and dosing strategy to bupivacaine



### **Lidocaine likely appropriate for operative interventions**

Favorable pharmacokinetics, familiar dosing

### **Limitations**

Challenging to estimate risk in absence of prior manifestations

However, should treat patients with Brugada genetics or ECG findings as at-risk

## References