



Incidence of general anesthesia for Cesarean delivery before and during the COVID-19 pandemic at BC Women's Hospital: a retrospective clinical audit

Luc Saulnier BA (Hons) MA, Vit Gunka MD FRCPC, Maisa Samiee UBC BSc Student, Simon Massey MB BCh MRCP FRCA FRCPC



Background:

Cesarean Delivery (CD):

- US and European OB Anes. societies recommend neuraxial anesthesia, when feasible, for CD due to higher risk of maternal and neonatal morbidity with general anesthesia (GA).¹

COVID-19:

- Our institution increased our spinal anesthesia (SAB) 0.75% bupivacaine dose to minimize conversion to GA
 - Minimize SAB failure
 - Risks associated aerosolization of COVID particles due to intubation

Aim:

To assess if a change in SAB 0.75% bupivacaine dose decreased our institutions incidence of GA for CD

Audit Method:

Sample:

- $n = 158$
 - $n = 94$ GA CD patient charts from 2018/2019 (Pre-COVID)
 - $n = 64$ GA CD patient charts from 2021/2022 (Intra-COVID)

Data Collected:

- Timing of GA, urgency of CD, number and type of anesthetic, neuraxial agents, reason for GA

Primary Outcome:

- Change in GA incidence in CD between Pre-COVID and Intra-COVID

Secondary Outcomes:

- Change in incidence of GA in elective CD cases only
- Change in incidence of GA conversion from failed SAB
- Median change in SAB 0.75% bupivacaine dose



Incidence of general anesthesia for Cesarean delivery before and during the COVID-19 pandemic at BC Women's Hospital: a retrospective clinical audit

Luc Saulnier BA (Hons) MA, Vit Gunka MD FRCPC, Maisa Samiee UBC BSc Student, Simon Massey MB BCh MRCP FRCA FRCPC



Results:

Primary Outcome:

Change in incidence of GA in **all CD cases**

- 3.9% (2018/2019) to 2.5% (2021/2022)
➤ **36% decrease**

Secondary Outcomes:

Change in incidence of GA in **elective CD** cases only

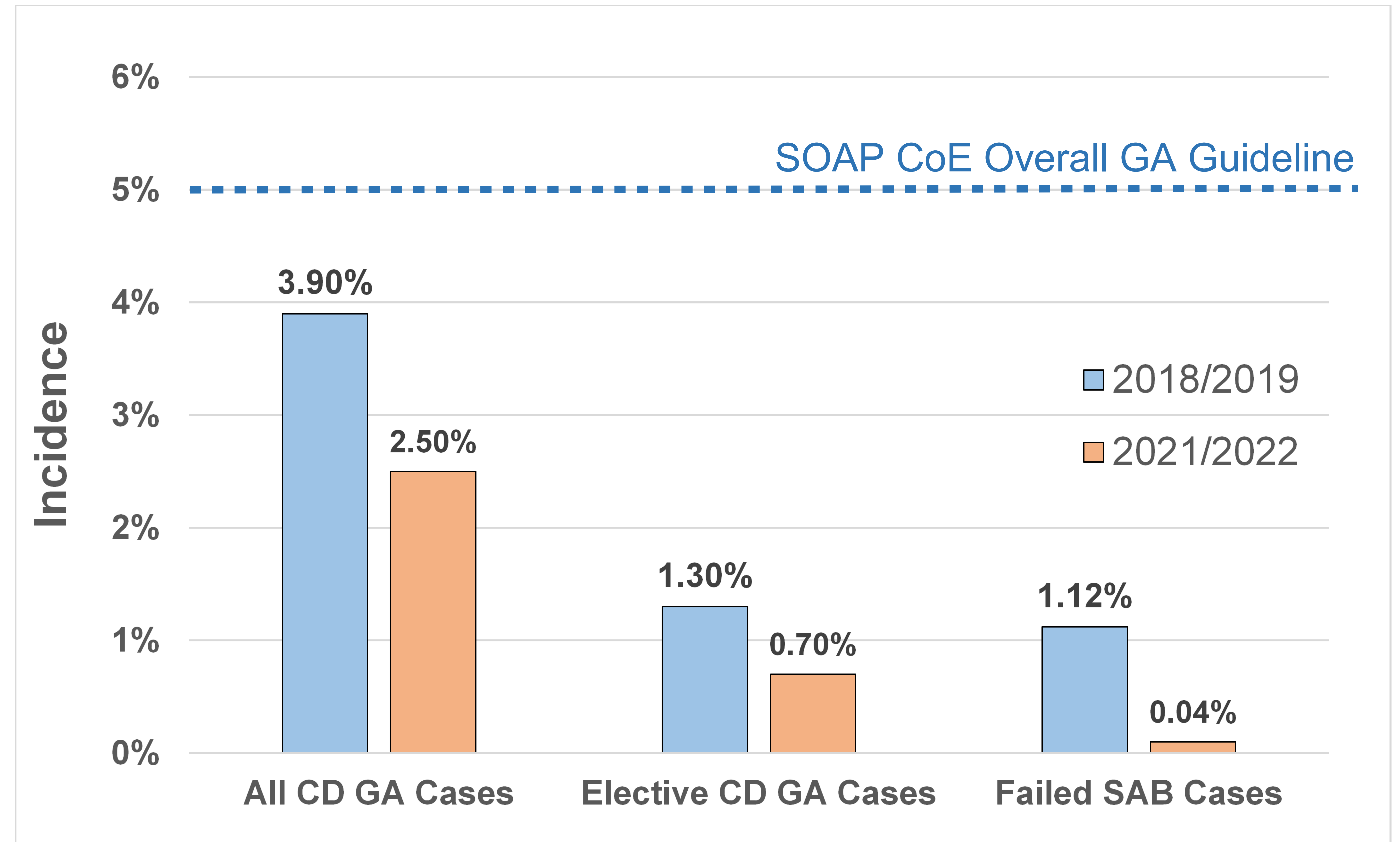
- 1.3% (2018/2019) to 0.7% (2021/2022)
➤ **46% decrease**

Change in incidence of **failed SAB** cases

- 1.12% (2018/2019) to 0.04% (2021/2022)
➤ **96% decrease**

Median change in SAB 0.75% bupivacaine dose

- SAB increase: 1.6 mL (2018/2019) to 1.8 mL (2021/2022), $p < .001$





Incidence of general anesthesia for Cesarean delivery before and during the COVID-19 pandemic at BC Women's Hospital: a retrospective clinical audit

Luc Saulnier BA (Hons) MA, Vit Gunka MD FRCPC, Maisa Samiee UBC BSc Student, Simon Massey MB BCh MRCP FRCA FRCPC



Conclusion:

Our institution had a decrease of incidence of GA for CD

- Overall CD GAs decreased 36%
- GA for elective CD decreased 46%
- Incidence of SAB failure decreased 96%

Possible reasons for observed decrease in GA incidence

1. Increase of SAB bupivacaine 0.75% dose: $\sim 1.6\text{mL} \Rightarrow \sim 1.8\text{mL}$
2. Increased vigilance to ensure epidural function & successful epidural OR top-ups
3. Obstetric and institutional factors
 - More time between cases
 - Absence of medical students/less residents

Future Direction:

- An increase in SAB bupivacaine may lower GA incidence
- Better understanding of why SABs fail

References:

1. Ring, Landau, & Delgado. Curr Anesthesiol Rep. 2021