

Incidence of dyspnea during neuraxial anesthesia for cesarean delivery

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Background

- In the United States, about 30% of women elect for cesarean deliveries in which the patient undergoes either regional or general anesthesia
- High spinal sensorimotor blocks achieve a spinal level of T3 and above and can be associated with cardiopulmonary deficits, such as dyspnea, hypotension, bradycardia.

Hypothesis

The primary aim of this study was to quantify the incidence of documented dyspnea associated with neuraxial anesthesia techniques for cesarean delivery at our hospital.

Study Design: Single-Center Retrospective Study

Methods

1. Baylor Scott & White IRB Approval
2. Examine every cesarean delivery at Baylor Scott & White Temple from January 1, 2020 to December 31, 2022

Inclusion Criteria:

- Combined spinal epidural (CSE)
- Single injection spinal (SIS)
- Removal of indwelling epidural catheter followed by CSE or SIS
- Activation of an indwelling labor epidural
- Lack of planned hysterectomy or another abdominal surgical procedure

Results

Types of Anesthesia	Rates of Dyspnea
CSE or SIS	1:1603 (95% CI 1:288-1:63,315)
Removal of indwelling labor epidural followed by CSE or SIS	1:133 (95% CI 1:37-1:1098)
Activation of indwelling labor epidural catheter	1:264 (95% CI 1:47-1:10,427)

Table 1: Rates of dyspnea

Cesarean Deliveries

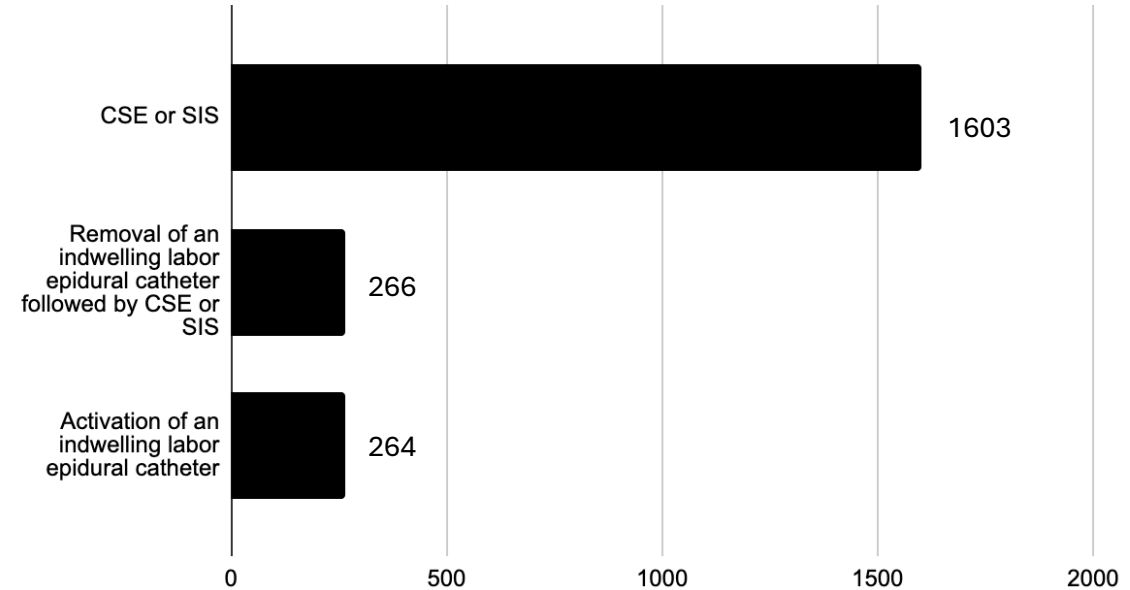


Figure 1: Cesarean deliveries by anesthetic technique

- Of the 2510 CDs during the study period, 4 patients had documented dyspnea and subsequent endotracheal intubation.

Discussion

- Removal of an indwelling labor epidural catheter followed by CSE or SIS had the highest rate of dyspnea
- Limitations of the study include:
 - Reported unedited entries from medical records that could contain potential inaccuracies
 - Limited to patient population at BSW Temple

Conclusion:

- The risks of high neuraxial blockade including dyspnea and cardiopulmonary deficits should be weighed against the benefits of improved anesthesia when deciding on a neuraxial anesthetic technique for cesarean delivery.

References:

D'Angelo R, et al. Serious complications related to obstetric anesthesia: the serious complication repository project of the Society for Obstetric Anesthesia and Perinatology. *Anesthesiology* 2014;120:1505-12

Shepherd B, et al. A comparison of anesthetic outcomes between activation and removal of epidural catheters for patients who underwent unscheduled intrapartum cesarean delivery. *Proc (Bayl Univ Med Cent)* 2023;36:473-477