

Conversion of labor analgesia for intrapartum caesarean delivery: A multicenter retrospective cohort study – an interim analysis

Kathryn J. Clark, M.B. B.Ch. B.A.O., Anthony Chau, M.D., M.M.Sc., Hans P. Sviggum, M.D., Mark D. Rollins, M.D., Ph.D., Andrew C. Hanson, M.S., Luc Saulnier, BA (Hons) MA, Katherine Seligman, M.D., Emily E. Sharpe, M.D.



Introduction:

- Extension of epidural labor analgesia for cesarean delivery (CD) anesthesia is not always successful.
- Epidural catheters placed as part of a combined spinal epidural (CSE) or dural puncture epidural (DPE) technique may prevent epidural conversion failure.

Primary Outcome:

- Failure of epidural catheter conversion to surgical anesthesia at CD

Hypothesis:

- The DPE technique is associated with increased successful conversion of NA analgesia for CD compared to epidural and CSE

Methods:

Multicenter retrospective cohort study

- February 1, 2017 through May 31, 2021 (Mayo Clinic)
 - DPE / CSE - typically 25G and 27G
- September 1, 2021 through September 15, 2022 (BCWH)
 - DPE - 25G; CSE - 27G

Inclusion criteria

- All patients with neuraxial labor analgesia and subsequent CD

'Failure of epidural catheter conversion' = new technique placed at time of CD or use of GA.



Conversion of labor analgesia for intrapartum caesarean delivery: A multicenter retrospective cohort study – an interim analysis

Kathryn J. Clark, M.B. B.Ch. B.A.O., Anthony Chau, M.D., M.M.Sc., Hans P. Sviggum, M.D., Mark D. Rollins, M.D., Ph.D., Andrew C. Hanson, M.S., Luc Saulnier, M.A., Katherine Seligman, M.D., Emily E. Sharpe, M.D.

Results:

Figure 1: Failed conversion rate per institution

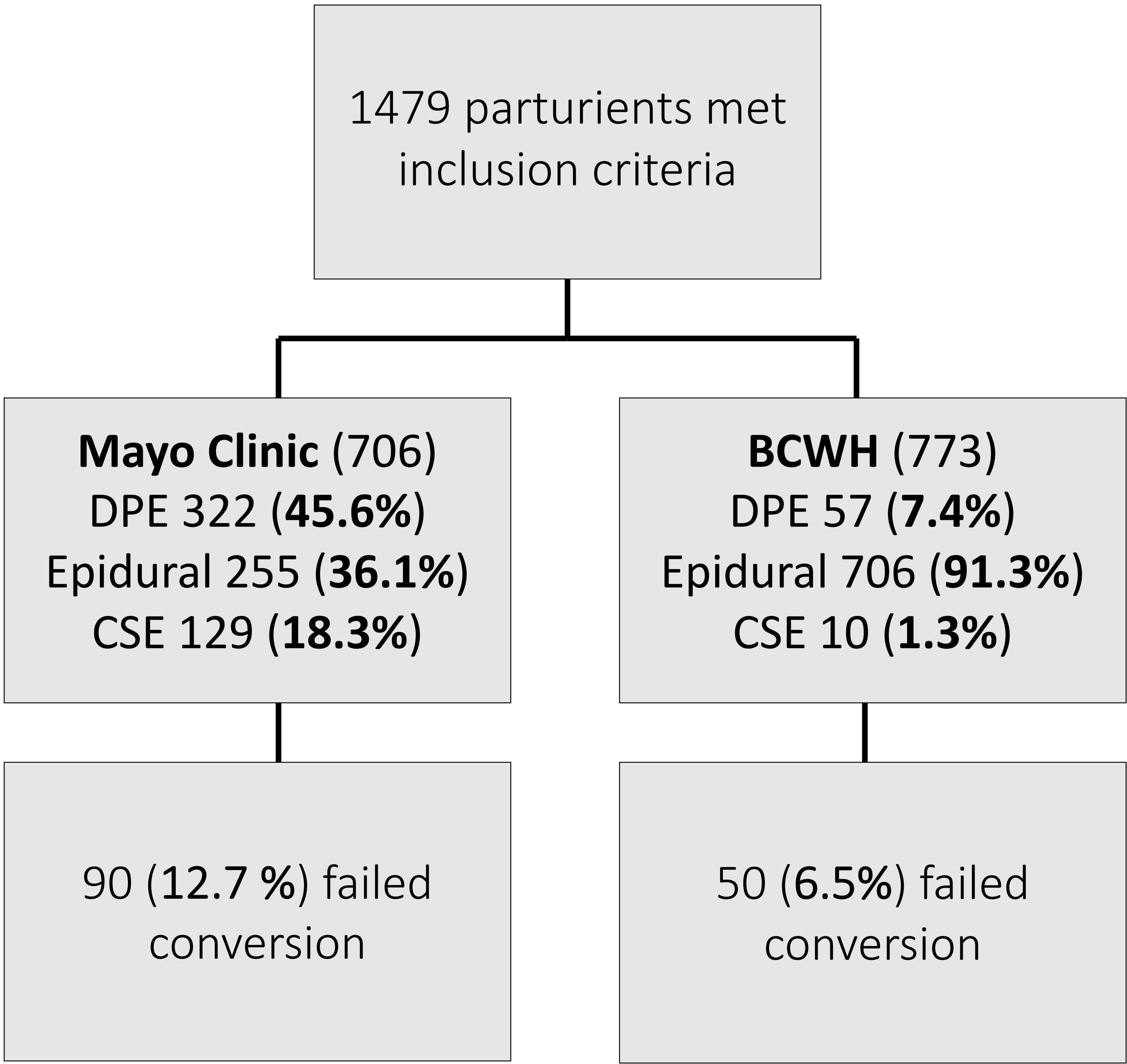


Table 1: Results from multivariable logistic regression

	Mayo Clinic		BCWH	
	Odds Ratio (95% CI)	P Value	Odds Ratio (95% CI)	P Value
<u>Primary analysis</u>				
Block type		0.434		0.054
Epidural	Referent		Referent	
CSE	0.71 (0.35, 1.42)		5.79 (1.36, 24.7)	
DPE	0.71 (0.40, 1.26)		0.84 (0.27, 2.64)	
<u>Secondary analyses</u>				
Spinal needle gauge		0.394		0.199
No spinal (epidural)	Referent		Referent	
27g	0.62 (0.30, 1.31)		4.79 (0.86, 26.7)	
25g	0.75 (0.42, 1.32)		1.18 (0.41, 3.38)	
Dural puncture		0.197		0.463
No	Referent		Referent	
Yes	0.71 (0.42, 1.19)		1.40 (0.57, 3.48)	

- No significant difference in neuraxial labor analgesia conversion failure by block type ($p= 0.48$)
- Evidence of significant treatment by site interaction ($p= 0.03$)

Conversion of labor analgesia for intrapartum caesarean delivery: A multicenter retrospective cohort study – an interim analysis

Kathryn J. Clark, M.B. B.Ch. B.A.O., Anthony Chau, M.D., M.M.Sc., Hans P. Sviggum, M.D., Mark D. Rollins, M.D., Ph.D., Andrew C. Hanson, M.S., Luc Saulnier, M.A., Katherine Seligman, M.D., Emily E. Sharpe, M.D.



Discussion:

- Interim analysis of data found no significant difference in neuraxial labor analgesia conversion failure by block type
- Significant site interaction
 - likely driven by low incidence of GA conversions and smaller numbers of DPE/CSE at BCWH
- The estimates for DPE are in the protective direction, but the confidence interval excludes significance
- Target sample size: 2100 patients
 - Planning to add additional institution(s)

