Patterns of intravenous access used for labor and delivery at Society for Obstetric Anesthesia and Perinatology Centers of Excellence – a cross-sectional survey study

Scott Seki, MD, PhD; James Miranda, MD; Lauren De La Ossa, MD; Allison Lee, MD, MS

Background

- Intravenous (IV) access is a standard safety measure in peripartum care
  - Facilitates administration of potentially life-saving medications and fluids
- "Indication-only" IV access has been advocated in some cases
  - E.g. low-risk parturients in spontaneous labor
- It is unclear how labor and delivery units define and approach **sufficiency of IV access**

- In **non-obstetric** perioperative settings where major hemorrhage is anticipated, experts generally recommend **at least two 18-gauge IVs or larger**
  - Comparable guidance for **labor and delivery** units is lacking

Objective

To characterize how Centers of Excellence approach IV access for childbirth

Hypothesis

Units **without policies** detailing a minimum level of IV access for labor and delivery will be **more likely** to report use of **a single 20-gauge IV** for both vaginal and cesarean delivery compared with those units **with** such policies

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Study design and methods

- Survey of labor and delivery units designated by the Society for Obstetric Anesthesia and Perinatology (SOAP) as Centers of Excellence (CoEs) in **February 2025**

- Survey asked respondents to **describe their existing division policies and practices related to venous access** for labor and delivery

Primary outcome: Rate at which respondents reported “commonly” using **a single 20-gauge IV or smaller** for vaginal or cesarean delivery

Secondary outcome: To understand how clinical contexts influenced decision-making regarding IV access

- Ex: elevated hemorrhage risk, difficult venous access

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Results

Type of policy related to IV access for labor and delivery	Number with policy / total number of respondents (%)
Policy specifying minimum level of IV access needed for routine labor and delivery by any means	24/38 (63.2%)
Risk stratification tool to identify parturients at high risk of postpartum hemorrhage	37/38 (97.3%)
Policy specifying minimum level of IV access needed when postpartum hemorrhage risk is high	29/38 (76.3%)
Policy detailing how to approach IV access in parturients where it is known to be difficult	15/38 (39.5%)

			Unit policy detailing minimum IV access appropriate for childbirth	
			Yes (n=24)	No/Unsure (n=14)
VD	Single 20-gauge IV or smaller commonly used for delivery	Yes	3 (12.5%)	3 (21.4%)
		No	21 (87.5%)	11 (78.6%)
	Multiple IVs commonly used for delivery	Yes	8 (33.3%)	1 (7.1%)
		No	16 (66.7%)	13 (92.9%)
CD	Single 20-gauge IV or smaller commonly used for delivery	Yes	3 (12.5%)	3 (21.4%)
		No	21 (87.5%)	11 (78.6%)
	Multiple IVs commonly used for delivery	Yes	8 (33.3%)	2 (14.3%)
		No	16 (66.7%)	12 (85.7%)

Type of assistive device / personnel reportedly available	Number with / total number of respondents (%)
Ultrasound with vascular probe	33/38 (86.8%)
Nurses trained in ultrasound IV access	9/38 (23.7%)
Anesthesia providers trained in ultrasound IV access	34/38 (89.5%)
Vein illuminator	13/38 (34.2%)
Vascular access team	23/38 (60.5%)

IV = intravenous; VD = Vaginal Delivery; CD = Cesarean Delivery

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Conclusion & Discussion

- Labor and delivery units frequently reported using only a single 20-gauge IV catheter for childbirth
  - This is especially true of those without policies related to IV access
- Units **without** a policy reported use of **a single 20-gauge IV** for childbirth by any mode of delivery nearly **twice as often** as those with policies
- The perceived impact of a society guideline to standardize the approach to IV access for labor and delivery was mixed
  - Potential to improve communication and outcomes vs concern for unintended potential consequences

A society guideline related to approaching IV access for labor and delivery may help standardize care, but should incorporate stakeholder perspectives

Additional research is needed to inform evidence-based guidelines and assess their impact on maternal outcomes

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