Describing postoperative void patterns after cesarean delivery without the use of urinary catheterization

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Background

- Urinary catheters are widely utilized during cesarean delivery, however evidence supporting this practice is limited.
- Urinary catheter use is associated with significant cost and morbidity.
- Little data available on post-cesarean section voiding patterns, volumes, and what should be considered “normal”.

Objectives

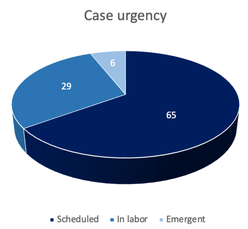
- Aim to describe voiding patterns and assess the prevalence of complications such as intraoperative bladder or ureteral injury and urinary retention in patients undergoing cesarean delivery without use of urinary catheterization.
- To gain a better understanding of these outcomes through comparison with available historical data and data previously reported in literature.
- Goal to standardize and guide clinical care.

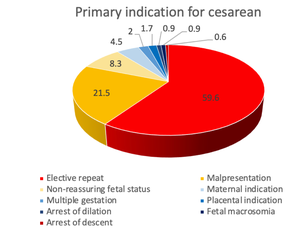
Methods

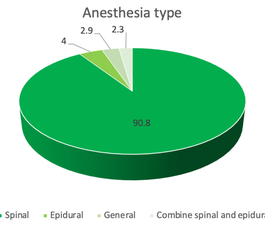
- Prospective observational cohort study conducted at Denver Health Medical Center (DHMC) of all eligible patients undergoing cesarean delivery from April 2022-April 2023.
- Non-use of routine urinary catheterization at time of cesarean adopted at DHMC unless deemed necessary by the attending surgeon.
- Data abstracted from the electronic medical record and confirmed via manual chart review.

Results

- 463 patients (57%) underwent cesarean delivery without urinary catheterization.
- Mean time to first postoperative void was 12 hours (SD 7.2hrs) with mean volume of 367.6mL (SD 256.7mL).
- 62 patients (17.8%) had transient postoperative urinary retention based on inability to void by 10 hours and/or catheterization volume ≥300mL.
- Only 1 patient in this group (0.3%) required an indwelling catheter be placed postoperatively for urinary retention and none were discharged home with a catheter.







Time to First Void (hours)	N	Mean (SD)
Our Study	349	12 (7.2)
Acharya et al. 2012	59	4.64 (0.85)
Nasr et al. 2009	210	7.64 (3.61)
Pandey et al. 2015	75	6.5 (0.82)
Senanayake 2005	341	8.76 (2.37)
Volume of first void (mL)		
Our Study	349	367.6 (256.7)
Acharya et al. 2012	59	180.51 (61.18)
Distress Catheterization Rate	N (Percentage)	
Our Study	143 (41)	
Acharya et al. 2012	16 (21)	
Barnes 1998	22 (23)	
Bartzen et al. 1987	Unknown (22.1)	
Ghoreishi 2003	6 (4.4)	
Li et al. 2011	Unknown (4.5)	
Senanayake 2005	2 (0.58)	
Rate of Urinary Retention		
Our Study	62 (17.8)	
Ghoreishi 2003	2 (1.5)	
Senanayake 2005	2 (0.58)	
Rate of Postpartum Hemorrhage		
Our Study	46 (13.2)	
Acharya et al. 2012	3 (4)	
Senanayake 2005	23 (6.68)	
Rate of Urinary Tract Infection		
Our Study	9 (2.6)	
Acharya et al. 2012	8 (10.7)	
Barnes 1998	0 (0)	
Pandey et al. 2015	3 (4)	
Senanayake 2005	2 (0.58)+	

Table 1: Comparisons to Data Reported Previously in Literature

Conclusions and Future

- Results suggest that non-use of routine urinary catheterization at time of cesarean delivery is safe, with resolution of transient postoperative urinary retention by time of discharge.
- Newer institutional policies surrounding catheter non-use and timeline for provider evaluation should be both established and encouraged to prevent to reduce unnecessary postoperative intervention.
- Additional studies will be required to assess long-term outcome and sequelae of urinary catheter non-use.

References

No disclosures or conflicts of interest