

Choice of anesthetic technique for dilation and curettage for pregnancy loss in first and second trimesters: a single center retrospective study

Alexandra Carlson, B.S.¹, Jessica Ehrig, M.D.², Kendall Hammonds, M.P.H.³, Michael Hofkamp, M.D.⁴

1. Texas A&M Health Science Center College of Medicine, 2. Department of Obstetrics and Gynecology, Baylor Scott & White Medical Center-Temple, 3. Baylor Scott & White Research Institute, 4. Department of Anesthesiology, Baylor Scott & White Medical Center-Temple



Introduction

- Dilation and curettage (D&C) is one management for pregnancy loss in the first or second trimesters.
- At Baylor Scott & White Medical Center-Temple we use either general or MAC anesthesia for our D&C's.
- We suspect that subjects at our hospital who received general anesthesia as the initial anesthetic technique for D&C for loss of pregnancy in the first or second trimesters would have a higher body mass index and a later gestational age compared to subjects who received sedation for the same procedure

Methods

- We searched our electronic medical record system for subjects who had dilation and curettage for the indication of loss of pregnancy during the first or second trimesters from July 1, 2018 to June 30, 2021.
- Data was gathered from the medical record and input into REDCap.

Results

Table 1. Demographic and clinical data

	General anesthesia (N=164)	Sedation (N=65)	P value
Age in years (mean (SD ¹))	30 (6)	28 (6)	0.20
Body mass index in kg/m ² (median (IQR ²))	28.3 (23.7-35.1) ³	27.2 (22.4-33.4) ⁴	0.09
Gravidity (median (IQR))	3 (2-4)	3 (2-4)	0.78
Parity (median (IQR))	1 (0-2)	1 (0-2)	0.26
Gestation in weeks (mean (SD))	9.4 (2.6)	9.1 (2.3)	0.42
Location of procedure			<0.01*
<i>Main operating room</i>	156 (95.1%)	48 (73.9%)	
<i>Labor and delivery suite</i>	8 (4.9%)	17 (26.2%)	
Time of day of procedure start			0.92
0700-1559	122 (74.4%)	48 (73.9%)	
1600-2359	38 (23.2%)	15 (23.1%)	
0000-0659	4 (2.4%)	2 (3.1%)	
Airway management			N/A
<i>Supraglottic airway</i>	80 (48.8%)	1 ⁵	
<i>Endotracheal intubation</i>	84 (51.2%)	N/A	
Paracervical block performed	23 (14.0%)	25 (38.5%)	<0.01*
Operative time in minutes (mean (SD))	29.4 (16.7)	27.2 (13.5)	0.35
Estimated blood loss in ml (median (IQR))	200 (50-500)	50 (30-100)	<0.01*
Units of transfused packed red blood cells in perioperative period (median (IQR))	0 (0-0)	0 (0-0)	0.85
Postoperative disposition			0.10
<i>Home</i>	145 (88.4%)	62 (95.4%)	
<i>Admitted to medical/surgical bed</i>	16 (9.8%)	3 (4.6%)	
<i>Admitted to intensive care unit</i>	3 (1.8%)	0	

1.SD=standard deviation, 2.IQR=interquartile range, 3. N=160, 4. N=57, 5. One subject required conversion to general anesthesia

Table 2. Multivariate logistic regression

	Odds Ratios	95% Confidence Intervals	P value
L&D suite vs main OR	7.010	2.837, 17.318	<0.0001
Gestational age: 1-week increase	0.944	0.834, 1.069	0.3660

- 164 (71.6%) and 65 (28.4%) subjects had general anesthesia and sedation, respectively, as the initial anesthetic technique for dilation and curettage for the indication of loss of pregnancy.
- A multivariate model that controlled for gestational age and location of procedure found that the odds ratio of subjects receiving sedation for dilation and curettage in the labor and delivery suite was 7.0 (95% CI 2.8, 17.3) compared to the main operating room.
- The estimated blood loss was higher in subjects who received general anesthesia.

Discussion

- Potential reasons why sedation was performed more often in our labor and delivery suite were that the anesthesia and obstetric care teams regularly provide regional anesthesia for cesarean deliveries and that general anesthetics in the labor and delivery suite are relatively uncommon. Conversely, the anesthesia and obstetric care teams provide general anesthesia for most procedures performed in our main operating room suite.
- We also found that the estimated blood loss was higher in subjects who received general anesthesia. A similar finding was also found in a retrospective cohort study by Conn et al.¹ The suspected mechanism is that inhaled anesthetics could inhibit uterine contractions, leading to increased uterine relaxation.¹
- A limitation of our study was that we were not powered to detect rare anesthetic complications.



References

1. Conn AM, Turrentine MA, Davis BR. Impact of route of anesthesia on estimated blood deficit with dilation and curettage for early pregnancy loss: A retrospective cohort study. *Journal of clinical anesthesia*. 2020;66:109784. <https://dx.doi.org/10.1016/j.jclinane.2020.109784>. doi: 10.1016/j.jclinane.2020.109784.