



Association of Anesthetic Technique for Cesarean Delivery with the Incidence of Depression or Postpartum Depression Diagnosed at the Postpartum Visit: A Retrospective Single Center Study



TEXAS A&M UNIVERSITY
School of Medicine

Elaine Avshman, BS¹, Hadley Young, MD², Emily E. Sharpe, MD³, Jessica Ehrig, MD²,
Kendall Hammonds, MPH², Michael P. Hofkamp, MD²

¹Texas A&M School of Medicine, Bryan, TX, USA, ²Baylor Scott & White, Temple, TX, USA, ³Mayo Clinic, Rochester, MN, USA

Introduction

- Previous reports have shown that patients who received general anesthesia (GA) for cesarean delivery (CD) had a higher risk of severe postpartum depression (PPD)
- The effect of inadequate anesthesia for CD on PPD has not been examined
- Administration of systemic adjuvant anesthetic agents such as intravenous fentanyl or inhaled nitrous oxide can serve as a surrogate marker for inadequate anesthesia during CD

Methods

- Electronic medical records were manually inspected for patients with CD from July 1, 2019 to June 30, 2021
- Inclusion criteria: postpartum visit within 60 days of delivery
- Investigator recorded 1) anesthetic technique, 2) history of depression or PPD, and 3) diagnosis with depression or PPD at postpartum visit

Anesthetic techniques		
General anesthesia	Regional anesthesia with systemic anesthetic adjuvant medication	Regional anesthesia only

Results

1,612 CD were performed --- 1,116 (69.2%) patients with a documented postpartum visit

- Odds ratio of being diagnosed with depression or PPD for patients with GA for CD was 0.943 (95% CI 0.511, 1.740; p = 0.852) compared to patients who RA only
- Odds ratio was 1.091 (95% CI 0.652, 1.826; p = 0.852) for patients who received RA with systemic anesthetic adjuvant medication compared to patients who received RA only
- Odds ratio of a diagnosis of depression or PPD at the postpartum visit for patients who had a history of depression or PPD was 3.694 (95% CI 2.471, 5.524; p < 0.001).

	Postpartum depression or depression documented (N = 110)	Postpartum depression or depression not documented (N = 1006)	P Value
Anesthetic technique			0.818
Regional anesthesia only	74 (67.3%)	692 (68.8%)	
Regional anesthesia with a least one anesthetic adjuvant medication	22 (20.0%)	179 (17.8%)	
General anesthesia	14 (12.7%)	135 (13.4%)	
History of depression or postpartum depression	62 (56.4%)	316 (31.4%)	<0.001*

Discussion

- Anesthetic technique for CD was not associated with the incidence of depression or PPD diagnosed at the postpartum visit when controlled for a history of depression or PPD.
- A history of depression or PPD had a strong association with the incidence of diagnosis of depression or PPD at the postpartum visit.
- Limitations of our study were that only approximately 70% of our patients had a documented postpartum visit and that we were underpowered to detect a weak association between anesthetic technique and depression or PPD diagnosed at the postpartum visit.

References

1. Guglielminotti J, Li G. Exposure to General Anesthesia for Cesarean Delivery and Odds of Severe Postpartum Depression Requiring Hospitalization. *Anesth Analg*. 2020 Nov;131(5):1421-1429