

Complications and Outcomes for Emergent vs. Nonemergent Cesarean Delivery in Super Morbidly Obese Patients

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Introduction

- Current rate of cesarean delivery (CD) in the US is 32%. (1)
- Concurrently, 31.9% of reproductive-age women are obese (2)
- Obesity is an established risk in obstetrics with associated comorbidities.

Materials and Methods

- Conducted a retrospective chart review from a single institution with IRB approval.
- Inclusion criteria was BMI ≥ 50.0 kg/m², patients aged 16 to 50 admitted for delivery of a viable fetus between 2015 and 2021 with a documented anesthesia encounter.
- We reviewed 342 patient encounters, 289 of which had a cesarean delivery (CD). 87 were classified as Emergent/Urgent and 202 as non-emergent/non-urgent.

1. Kinsella, S M, and M J L Scrutton. "Assessment of a modified four-category classification of urgency of caesarean section." *Journal of obstetrics and gynaecology : the journal of the Institute of Obstetrics and Gynaecology* vol. 29,2 (2009): 110-3. doi:10.1080/01443610802585546

2. Catalano PM, Shankar K. Obesity and pregnancy: mechanisms of short term and long term adverse consequences for mother and child. *BMJ*. 2017 Feb 8;356:j1. doi: 10.1136/bmj.j1. PMID: 28179267; PMCID: PMC6888512.

Methods (cont'd)

- Continuous variables were analyzed using Two-tailed 2 sample Student T-Tests with unequal variance
- Proportions were analyzed using 2 sample Z-test of Proportions.

Results

- Maternal BMI and Age were statistically similar
- Infant Gestational Age for emergent/urgent deliveries was found to be less by approximately 1 week and 5 days.
- Rates of Preeclampsia and Gestational hypertension were greater for Emergent/Urgent CD.
- Post-operative infections were more prevalent in Emergent/Urgent CD.
- Increased Length of Stay was noted for Emergent/Urgent CD

		Category 4 CS (n = 202)	Urgent and Emergent (N = 87)	Two tailed P-Value (alpha=0.05)
Maternal BMI (kg/m ²)	Mean	55.79	56.59	0.32
	Standard Deviation	6.14	6.17	
Maternal Age (years)	Mean	29.32	29.25	0.92
	Standard Deviation	5.56	5.65	
Gestational Age (Weeks)	Mean	37.9	36.18	<0.0001 (CI 95%: 1.198 - 2.239)
	Standard Deviation	1.95	2.31	
Maternal Comorbidities (%)	Preeclampsia	6%	20%	0.0004 (CI 95%: 0.0605 - 0.2115)
	Gestational Hypertension (%)	33.17%	56.32%	0.0002 (CI 95%: 0.1083 - 0.3547)
	Preexisting Hypertension (%)	36.63%	47.12%	0.0946
	Asthma (%)	15.34%	17.24%	0.6863
	Obstructive Sleep Apnea (%)	3.47%	3.45%	0.9942
	Diabetes (%)	25.24%	35.63%	0.0724
Post Operative Complications	Estimated blood loss (mL)	924.8 (SD 336.7)	991.4 (SD 393)	0.1854
	% Post operative infection	9.40%	19.54%	0.0167 (CI 95%: 0.0183 - 0.1843)
	Average of Total Length of Hospital Stay (hours)	72.9	134.55	0.0038
Infant Outcome	APGAR 1	7.51 (SD 1.31)	7.19 (SD 1.38)	0.069
	APGAR 5	8.73 (SD 0.47)	8.58 (SD 0.64)	0.057
	Baby Weight (g)	3422 (SD 722.7)	3219 (SD 900)	0.054

Discussion:

This retrospective comparison of super obese emergent cesarian deliveries were more prone to post-operative infection compared to their nonemergent counterparts.

Known risk factors requiring urgent delivery were prevalent in the emergent CD group.

- Gestational HTN
- Preeclampsia

Conclusions:

Further analysis of other risks with a larger sample size should be conducted to better understand the relationship between BMI and postoperative infections