Impact of Super Morbid Obesity on Duration of Admission in Patients Undergoing Cesarean Section

Trent Stephen Weatherley, Medical Student at UTMB John Sealy School of Medicine
Kristine Lane, Haley Hodgins, Safir Abbas, Lakshmi Ram, M.D., Allison Mullins M.D., Rovnat Babazade M.D.
University of Texas Medical Branch, Galveston, TX, USA

Introduction

- Nearly half of deliveries among super morbidly obese patients require cesarean section
- The added length of stay associated with cesarean section delivery can add **health and financial strain**
- **Primary outcome in this study was to analyze the outcomes of super morbid obesity and its influence on length of admission compared to the general population**

Materials and Methods

- Retrospective analysis at single hospital institution between 2015-2021
- Inclusion Criteria: Patients between ages 16-50 with **a BMI ≥ 50** admitted for delivery of a viable fetus with documented anesthesia encounter
- We reviewed 934 patients and 496 met the inclusion criteria. Among those women, **282 underwent cesarean section**

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Results

Table 1. Demographics and Outcomes of Super Morbidly Obese Patients Who Underwent Cesarean Section		
Population (n)		282
Maternal BMI (kg/m^2)	Mean	56.04
	Standard Deviation	6.14
Maternal Age (years)	Mean	29.32
	Standard Deviation	5.57
Gestational Age (Weeks)	Mean	37.40
	Standard Deviation	2.20
	Preterm, <37 weeks, (n) neonates	88
Maternal Comorbidities (n)	Gestational Hypertension	116 (41.13%)
	Preexisting Hypertension	115 (40.78%)
	Diabetes	82 (29.08%)
	Asthma	46 (16.31%)
	Obstructive Sleep Apnea	10 (3.56%)
	GERD	67 (23.76%)
	Smoking History	75 (26.69%)
	Substance Abuse	17 (6.03%)
Anesthetic Technique (n)	Epidural	49
	Spinal	108
	Combined Spinal-Epidural	118
	General Anesthesia	19
Maternal Outcomes	Duration of Admission (Hours)	91.34 (SD 119.41)
	Post Dural Puncture Headache (n)	3 (1.07%)
	Post-Operative Mortality Within 2 Months (n)	1 (0.35%)
	Post-Operative Infection (n)	36 (12.81%)
	Estimated Blood Loss (mL)	944.77 (SD 354.29)
Neonatal Outcomes	Birth Weight (grams)	3359.72 (SD 784.54)
	APGAR at 1 Minute	7.41 (SD 1.34)
	APGAR at 5 Minutes	8.69 (SD 0.53)

The average stay among the 282 patients was **91.34 hours.** A significant factor in this duration of admission could be the **postoperative infection** rate in this population at 12.62%. Other factors that could have impacted healing and subsequently admission duration are:

Diabetes: 29.08%

Smoking History: 26.69%

Gestational hypertension: 41.13%

Of the 282 cesarean sections, 83 were emergent (29.54%). General anesthesia was required in 6.74% of the cases.

There was one case of maternal mortality withing 2 months of delivery.

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Discussion

- In a study at the same institution, the average length of stay in the hospital for cesarean delivery among the general population was 82.11 hours. Comparatively, the average duration of admission was **9.23 hours longer** for super morbidly obese patients in our study. With the cost of admission approximately $3500 daily, this can add significant financial strain.
- As the rates of postoperative complications and length of hospital stay are relatively increased, emphasis should be placed on preconception and pregnancy **weight management.**
- Further investigation could analyze if proper weight gain during pregnancy minimizes the duration of admission and postoperative infections for super obese patients.