Failed Induction of Labor Rates in Class Three Obesity: A Retrospective Study

Hannah Schmucker MD, Allison Clark MD
Ochsner Clinic Foundation

- In women of reproductive age – obesity is the most common health problem (1). These patients are more likely to have an induction of labor (IOL). Studies show an increase in failed IOL for obesity but data on rates of failed IOL specifically within class 3 obesity, BMI ≥40, is lacking (2).

Objectives

- Primary: Quantify rate of failed induction of labor for BMI 40-49.9 and BMI ≥ 50
- Secondary: Determine if class 3 obesity increases the risk of epidural related outcomes, postpartum hemorrhage, infection, NICU admissions, APGARs

Hypothesis

- In class 3 obesity, there will be high rates of failed IOL
- In class 3 obesity, there will be higher rates of comorbidities and complications with failed IOL compared to elective cesarean section (CS)

(1) Creanga, A. A., Catalano, P. M., & Bateman, B. T. (2022). Obesity in pregnancy. New England Journal of Medicine, 387(3), 248–259. https://doi.org/10.1056/nejmra1801040
(2) Bjorklund, J., Wiberg-Itzel, E., & Wallstrom, T. (n.d.). (2022) Is there an increased risk of cesarean section in obese women after induction of Labor? A retrospective cohort study. PLOS ONE. https://journals.plos.org/plosone/article?id=10.1371%2Fjournal.pone.0263685

Study Design and Methods

- A retrospective cohort study was performed using medical records of patients at Ochsner Baptist from January 2021-September 2025.

Population

- Experimental groups BMI 40-49.9 and BMI ≥ 50
- Reference group primary elective cesarean deliveries

Inclusion Criteria

- Induction of Labor, ≥ 34 week gestation

Exclusion Criteria

- Multiple gestation pregnancy, < 34 week gestation, prior cesarean section, IUFD

Data Collection

- Manual chart review of variables including demographics, medical history, obstetric outcomes, anesthetic outcomes, fetal outcomes

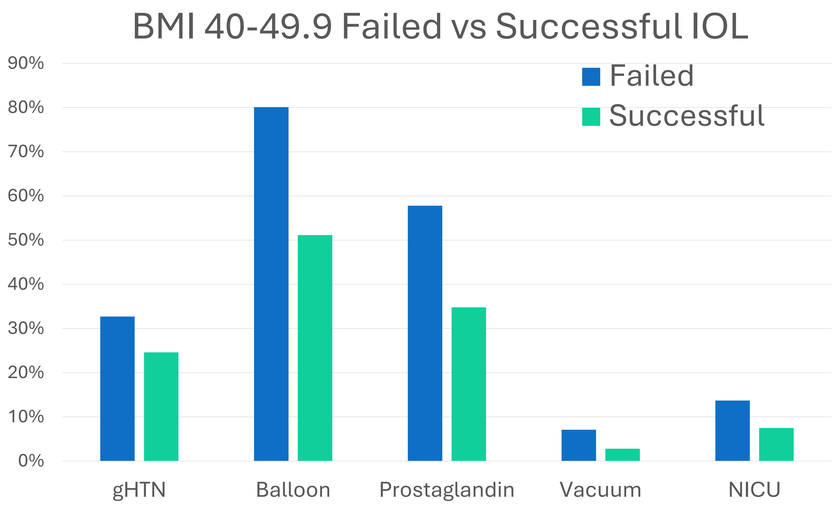
Experimental group
926 patients

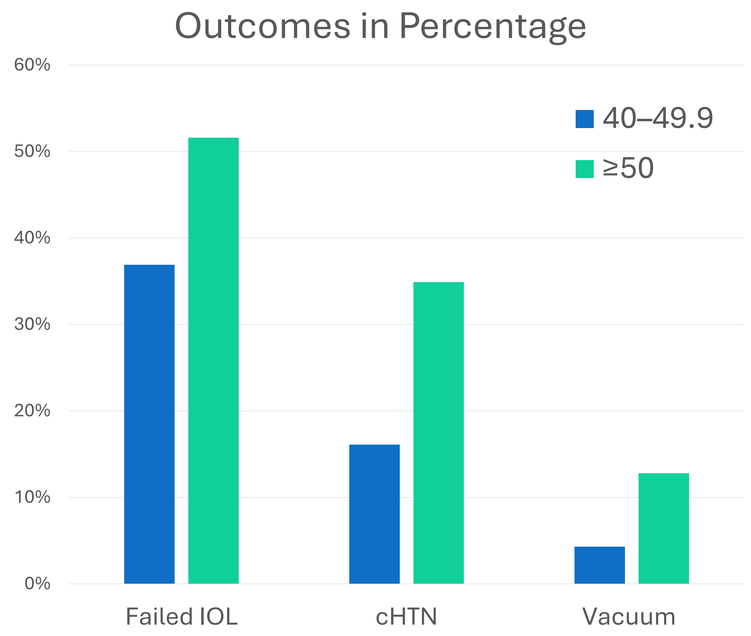
BMI 40-49.9, n = 610
BMI ≥ 50, n = 86

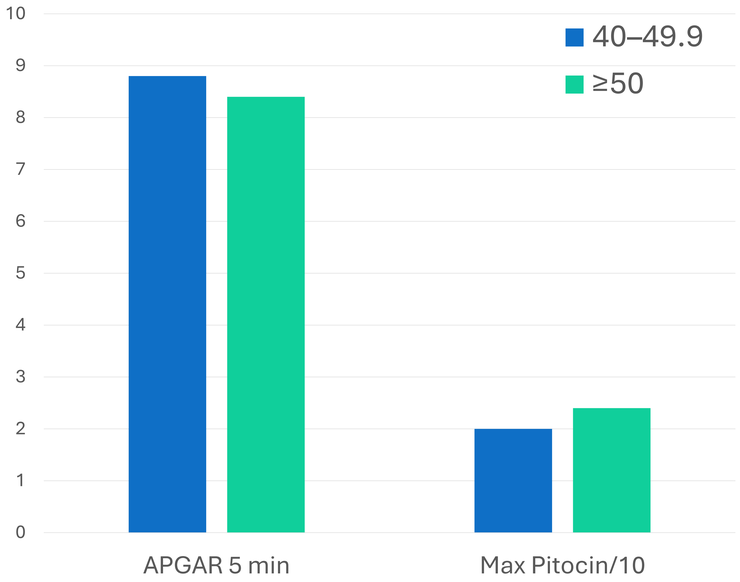
Control group
221 patients

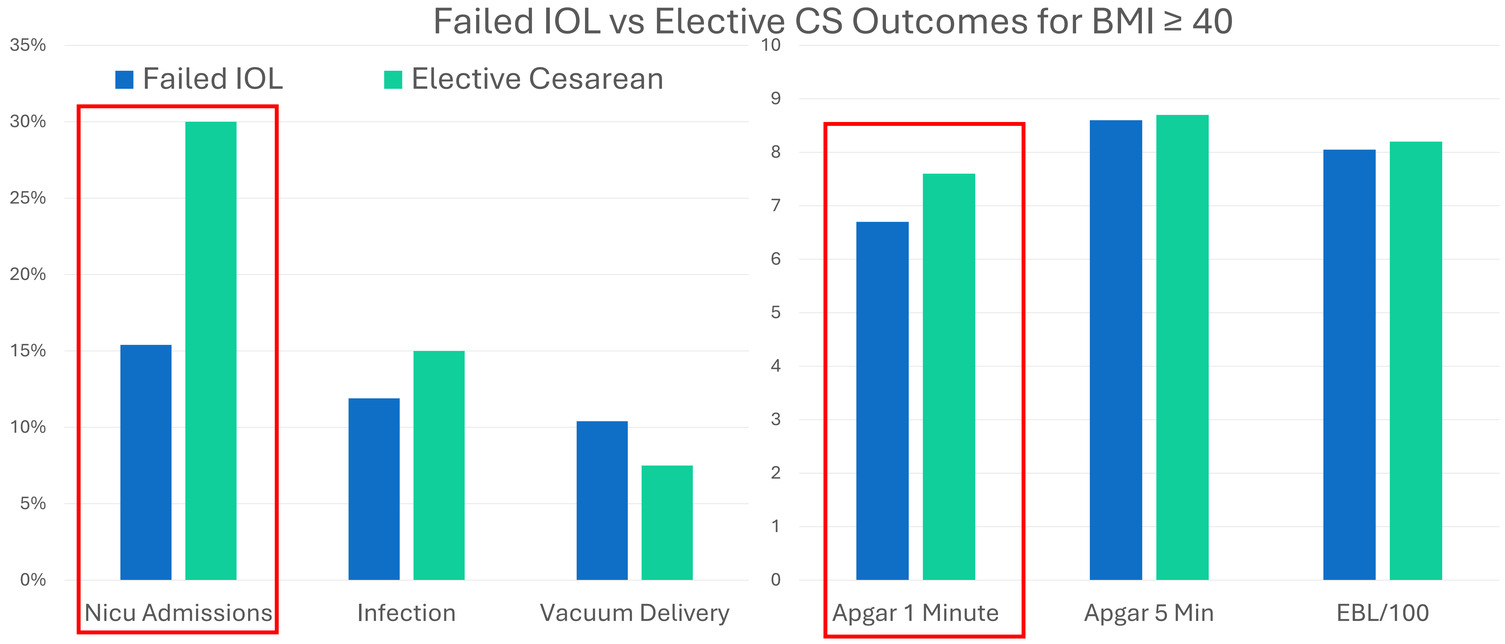
Results

BMI	40-49.9	≥50
Failed IOL	34.6%	51.6%









Conclusion and Discussion

- Published data for failed induction of labor rates show BMI ≥ 40 is 34% (3).

BMI	40-49.9	≥50
Failed IOL	34.6%	51.6%

- Outcomes in the BMI ≥ 50 may not have sample size large enough for statistical significance. We look forward to collaborating with other sites for larger sample size.

- Balloon, prostaglandin, and gHTN are predictors of failed induction of labor in class 3 obesity.

- No statistically significant difference in infection, EBL, or Apgar 5 minutes between failed IOL and elective cesarean groups.
  - In fact, there is a statistically significant increase in NICU admissions with elective CS.
  - In conclusion, there is no clear benefit to deliver patients with BMI ≥40 by elective CS instead of IOL.

(3) Wolfe KB, Rossi RA, Warshak CR. The effect of maternal obesity on the rate of failed induction of labor. Am J Obstet Gynecol. 2011 Aug;205(2):128.e1-7. doi: 10.1016/j.ajog.2011.03.051. Epub 2011 Apr 8. PMID: 21621187.