excluded previous CD, antepartum stillbirth, congenital anomaly, and BMI <18.5. Women were categorized according to BMI: normal weight (18.5-24.9), overweight (25.0-29.9), obese category I (30.0-34.9), category II (35.0-39.9), and category III (≥40). Chi-square and Cochran-Armitage Trend Test were used to compare indications. P-value (P) <.01 was considered as significant.

RESULTS: Of 66,502 nulliparas and 76,961 multiparas, 19,431 nulliparas (29.2%) and 7,329 multiparas (9.5%) underwent primary CD. In nulliparas, higher BMI was associated with increased rates of primary CD for elective, macrosomia, fetal indication, NRFHT, chorioamnionitis, HTN, FTP or CPD, and failed induction (P<.01 for all) but not for malpresentation (P=.02), multiple gestation (P=.03), HIV or active HSV (P=.70), uterine scar (P=.02), placental abruption (P=.05), and failed operative delivery (P=.27) (Figure 1). In multiparas, higher BMI was associated with increased rates of primary CD for malpresentation, elective, multiple gestation, macrosomia, fetal indication, NRFHT, HTN, FTP or CPD, and failed induction (P<.01 for all) but not for HIV or active HSV (P=.31), uterine scar (P=.07), chorioamnionitis (P=.06), placental abruption (P=.14), and failed operative delivery (P=.91) (Figure 2). Higher BMI was associated with decreased rate of primary CD for placenta previa or vasa previa regardless of parity (P<.01).

CONCLUSION: NRFHT and FTP or CPD were major contributors for the increased primary CD rates in obese women. Further evaluation is needed to attempt to reduce the CD rate.

Figure 1. Indications for primary cesarean delivery in nulliparas.

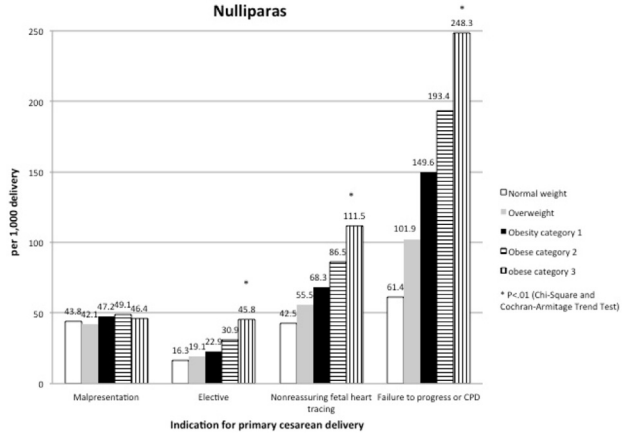
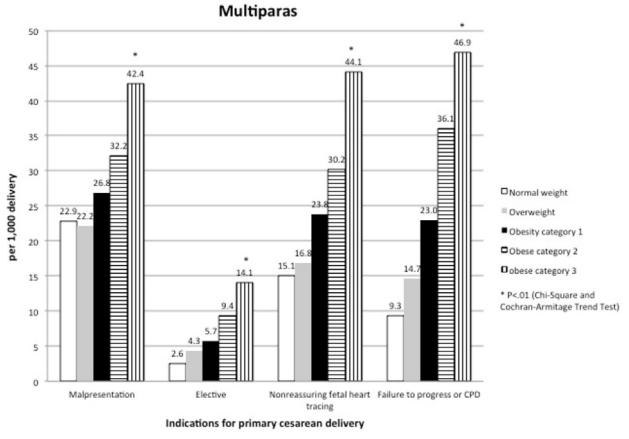


Figure 2. Indications for primary cesarean delivery in multiparas.



221 Maternal obesity and acute neonatal morbidity after cesarean delivery

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OBJECTIVE: To describe the association between maternal obesity and acute neonatal morbidity among neonates delivered via cesarean delivery (CD), and to estimate this association in women with Class III obesity.

STUDY DESIGN: A secondary cohort analysis of the MFMU Cesarean Registry stratified by maternal body mass index (BMI) at delivery, as non-obese (BMI 18.5-29.9), non-Class III obese (BMI 30-39.9) and Class III obese (BMI ≥ 40). Our primary outcome was defined as having one or more acute peripartum neonatal morbidities, including 5 min Apgar < 5, CPR or ventilator support within 24 hours of delivery, and neonatal injury (brachial plexus injury, fracture, facial nerve injury, skin laceration). Additional analyses assessed each outcome separately, including NICU admission and cord gas pH <7.1. We conducted a subgroup analysis of Class III obese women and defined BMI as 40-49.9, 50-59.9, and BMI ≥ 60. We compared maternal, neonatal and operative characteristics using $\chi 2$ analysis. Logistic regression models were used to estimate odds of acute neonatal morbidity among all pregnancies and for term pregnancies only (≥37 weeks) for each maternal BMI stratum. Models were adjusted for age, race, number of prior CD, CD after labor, birth weight, hemoglobin, cesarean indication, anesthesia, uterine and skin incision.

RESULTS: Of 49493 women-neonate dyads delivered via CD, 38% of women (n=18,786) were non-obese, 47% (n=23,279) were non-Class III obese and 15% (n=7428) were Class III obese. Among Class III obese women, 82% (n=6108) had BMI 40-49.9; 15% (n=1089) had BMI 50-59.9, and 3% (n=222) had BMI ≥ 60. With higher maternal BMI, unadjusted risk of NICU admission (p<.0001) and cord gas pH <7.1 (p<.0001) were higher. Class III obesity was associated with increased odds of acute neonatal morbidity (Table). Associations appeared similar whether or not we restricted to term deliveries, but were more consistently significant among term deliveries.

CONCLUSION: Maternal class III obesity is associated with higher odds of severe acute neonatal morbidity after CD. This information is important for maternal counseling and may guide in developing interventional studies aimed at decreasing neonatal morbidity among obese patients.

Maternal obesity and acute neonatal morbidity at time of cesarean

	All Deliveries (n=49493)			Term Deliveries (n=41262)		
	Severe acute morbidity n (%)	Crude OR (95% CI)	Adjusted OR (95% CI)	Severe acute morbidity n (%)	Crude OR (95% CI)	Adjusted OR (95% CI)
Non-obese (BMI 18.5-29.9)	1665 (8.9)	1 (ref)	1 (ref)	323 (2.2)	1 (ref)	1 (ref)
Non-Class III obese (BMI 30-39.9)	1407 (6.0)	0.66 (0.61,0.71)	0.99 (0.91, 1.98)	480 (2.4)	1.10 (0.96, 1.27)	1.11 (0.95, 1.30
Class III obese (BMI ≥ 40)	518 (7.0)	0.77 (0.70,0.85)	1.21 (0.07,1.37)	187 (3.0)	1.38 (1.15, 1.65)	1.35 (1.10, 1.65)
BMI 40-49.9	431 (7.1)	0.78 (0.70, 0.87)	1.24 (1.09, 1.41)	151 (2.9)	1.35 (1.10,1.64)	1.33 (1.07, 1.65)
BMI 50-59.9	75 (6.8)	0.75 (0.59, 0.96)	1.25 (0.95, 1.66)	32 (3.5)	1.61 (1.12, 2.33)	1.54 (1.04, 2.28)
BMI≥ 60	12 (5.4)	0.59 (0.33, 1.05)	0.55 (0.28,1.10)	4 (2.2)	1.01 (0.33, 2.73)	0.74 (0.23, 2.35)

222 Development of a prediction model for cesarean-associated blood transfusion

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OBJECTIVE: To develop a model based on factors available at the time of cesarean delivery to predict risk of red blood cell transfusion in the intraoperative or postoperative period.