Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

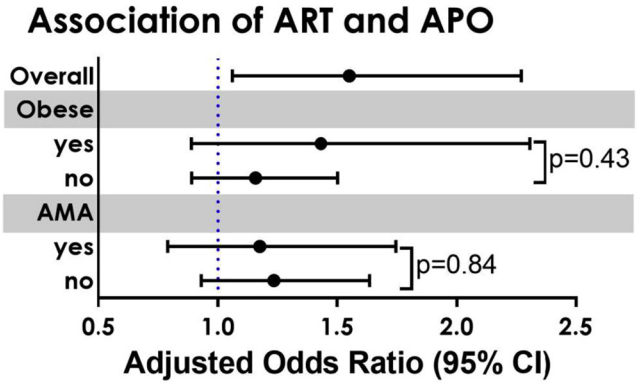
uncertain. Thus, we evaluated differences in adverse pregnancy outcomes in obese and AMA patients with and without ART.

STUDY DESIGN: This is a secondary analysis of the NuMoM2b cohort. All participants who continued pregnancy >20 weeks, followed to delivery, and had primary endpoint and key exposure data were included. Our primary exposure was ART, and our key modifying variables were obesity (BMI ≥30) and AMA (age ≥35). Our primary adverse pregnancy outcome (APO) endpoint was a composite of gestational diabetes, hypertensive disorder of pregnancy, abruption, preterm delivery, small for gestational age, and stillbirth. Secondary endpoints included neonatal morbidity. We tested for effect modification (interaction between ART and obesity, or AMA) in multivariable logistic regression.

RESULTS: Among 9,261 participants ART (n=371) was associated with older age (33 vs 26, p < 0.001), non-Hispanic white race/ethnicity (80% vs 60%, p < 0.001), and income poverty line (98% vs 69% >200%, p < 0.001). When stratified by BMI ≥30 (n=2057), findings were consistent. The difference in race and ethnicity persisted among non-AMA, but not AMA women (n=859).

The adjusted association between ART and APO was significant, but did not differ significantly by obesity or AMA (figure). Both obesity (1.8 (1.7, 2.0)) and AMA (1.4 (1.2, 1.6)) were independently associated with APO. Secondary endpoints of neonatal morbidity were not significantly associated with ART overall or when stratified by obesity or AMA (table).

CONCLUSION: ART, obesity and AMA are independently associated with APO. However, obesity and AMA did not significantly modify the relationship between ART and APO. These findings suggest that obese and AMA populations do not have a significant increase in APO with the use of ART that differs from that of AMA with non-obese or younger women respectively.



Each model includes: AMA, Obesity, Race, Insurance, Chronic HTN, and structural anomaly

Table 1. Selected secondary endpoints: neonatal morbidity

Secondary endpoints, neonatal morbidity	ART (n=367)			Spontaneous (n=8830)		p
NICU admission	57 (16)			1270 (14)		0.54
Arterial cord blood gases pH < 7.1	12 (3)			197 (2)		0.191
5m Apgar <7	8 (2)			185 (2)		0.912
Neonatal death	1 (0)			25 (0)		0.97
	Obese (BMI ≥ 30)			Non-Obese (BMI < 30)		
	ART	Spontaneous	p	ART	Spontaneous	p
	n=73	n=1966		n=294	n=6864	
NICU admission	17(23.3)	374(19.0)	0.363	40(13.6)	896(13.1)	0.783
Arterial cord blood gases pH < 7.1	4(5.5)	60(3.1)	0.243	8(2.7)	137(2.0)	0.387
5m Apgar <7	1(1.4)	51(2.6)	0.515	7(2.4)	134(2.0)	0.604
Neonatal death	0(0.0)	9(0.5)	0.562	1(0.3)	16(0.2)	0.712
	Advanced Maternal Age (age ≥ 35)			Non-advanced age (age < 35)		
	ART	Spontaneous	p	ART	Spontaneous	p
	n=126	n=727		n=241	n=8103	
NICU admission	19(15.1)	120(16.5)	0.689	38(15.8)	1150(14.2)	0.49
Arterial cord blood gases pH < 7.1	5(4.0)	34(4.7)	0.725	7(2.9)	163(2.0)	0.334
5m Apgar <7	3(2.4)	22(3.0)	0.692	5(2.1)	163(2.0)	0.945
Neonatal death	1(0.8)	2(0.3)	0.364	0(0.0)	23(0.3)	0.408

1126 Are abnormal coagulation studies upon hospital admission in gravidas with COVID-19 associated with adverse outcomes?

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OBJECTIVE: Coagulopathies are associated with COVID-19 infection. Given that pregnancy is also a risk factor for thrombosis, we evaluated if coagulation laboratory parameters at the time of hospital admission in pregnant patients with COVID-19 were associated with adverse outcomes.

STUDY DESIGN: Retrospective cohort study of gravidas with COVID-19 admitted to a single, tertiary care center who had coagulation studies completed upon hospital admission per institutional protocol. Patients were classified as having high D-dimer >1000 or D-dimer ≤ 1000 ng/mL. The primary outcome was composite morbidity defined as ICU admission, intubation, VTE, maternal death, IUFD/neonatal death, Cr >1.3, readmission, transfusion, postpartum hemorrhage, and cesarean birth for worsening maternal status. Outcomes were compared between D-dimer groups and evaluated at an a=0.05. Receiver operator characteristics (ROC) curves with area under the curve (AUC) assessed D-dimer's ability to predict our primary outcome. We also assessed the predictive values of related coagulation parameters in a similar fashion.

RESULTS: Seventy-three patients had coagulation studies completed, of which 57 (78%) delivered at our institution. Baseline characteristics were similar between groups except that patients with high D-dimer were at later gestational ages on admission (38 vs 32 weeks, p=0.002) which in itself can be associated with higher D-dimers. Patients with high D-dimer were also more likely to have elevated PT and INR (both p< 0.05), but not LDH, fibrinogen, and PTT. Composite morbidity was similar between the D-dimer groups (Table 1). Patients with high D-dimer were less likely to have a maternal or neonatal ICU admission, and preterm birth (Table 1-2). D-dimer was poorly predictive of composite morbidity

(AUC=0.67); as were other coagulation abnormalities (AUC 0.52-0.69).

CONCLUSION: In pregnant patients with COVID-19, coagulation studies at time of hospital admission were not associated with or predictive of adverse outcomes. Further studies should evaluate if these findings apply to newer variants of COVID-19.

Table 1: Primary outcomes of high D-dimer level at time of hospital admission in pregnant patients with COVID-19 that delivered at our institution

	D-Dimer ≤ 1000 (n=34)	D-Dimer > 1000 (n=23)	P-Value
Composite morbidity	22 (65%)	11 (48%)	0.20
ICU admission	21 (62%)	7 (32%)	0.02
Intubation	4 (12%)	2 (9%)	1.00
VTE	0 (0%)	2 (9%)	0.15
PPH	5 (15%)	2 (9%)	0.68
Transfusion	3 (9%)	1 (4%)	0.64
IUFD/neonatal death	2 (6%)	2 (9%)	0.15
Readmission	1 (3%)	3 (13%)	0.29
Maternal death	0 (0%)	0 (0%)	N/A

Composite morbidity: ICU admission, intubation, VTE, maternal death, IUFD/neonatal death, Cr >1.3, readmission, transfusion, postpartum hemorrhage, cesarean section indication for worsening maternal status

Table 2: Secondary outcomes of high D-dimer level at time of hospital admission in pregnant patients with COVID-19 that delivered at our institution

	D-Dimer ≤ 1000 (n=34)	D-Dimer > 1000 (n=23)	P-value
Required respiratory support	8 (24%)	4 (17%)	0.57
Required pharmacologic therapy	7 (21%)	4 (17%)	1.00
Disease severity			0.83
Asymptomatic	17 (50%)	13 (57%)	
Mild-Moderate	9 (26%)	6 (26%)	
Severe-Critical	8 (24%)	4 (17%)	
Preterm birth	19 (56%)	4 (18%)	0.005
1-minute APGAR ≤ 5	9 (26%)	2 (9%)	0.17
NICU admission	21 (62%)	7 (32%)	0.02
Gestational HTN	5 (15%)	1 (4%)	0.38
Preeclampsia	16 (47%)	5 (22%)	0.05
Abruption	2 (6%)	1 (4%)	1.00

1127 Periviable multiple gestations: Are neonatal complications different than singletons born at the same gestational age?

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OBJECTIVE: Women with multiple gestations are counseled differently than singleton pregnancies for many prenatal scenarios. Limited data is available on periviable prognosis of multiple gestations as compared to singletons. We sought to determine if neonatal complications and survival rates differ according to type of gestation in periviable births.

STUDY DESIGN: Retrospective cohort study of all infants without major congenital anomalies who delivered at our institution from 2013-2019 between 22 0/7-25 6/7 weeks gestational age (GA). Corticosteroids for fetal lung maturity were routinely administered at 22 5/7 weeks and beyond. We estimated survival milestones in a stepwise fashion: intrauterine fetal demise (IUFD) during an antepartum admission, IUFD during labor, neonatal death before NICU discharge, and confirmed survival to 1 YOL. We analyzed rates of lung disease requiring respiratory support at discharge, intraventricular hemorrhage (IVH), retinopathy of prematurity (ROP), pulmonary hypertension, and concern for cerebral palsy (CP) at 1 year of life (YOL).

RESULTS: There were 451 singleton and 67 multiple gestation pregnancies, a total of 592 infants. Of the multiples, 75% were dichorionic twins, 20% were monochorionic/diamniotic twins, 4% were triplets and 1% were quadruplets. We had a follow-up rate of 96% to 1 YOL. Multiple gestations were more often admitted for PTL, but admissions for hypertension were less likely compared to singletons. The average GA at delivery was 24.1 weeks for singletons and 23.5 weeks for multiples (p=< 0.001). Neonatal outcomes were adjusted for this GA difference. Survival was not different at any admission milestone. Confirmed survival at 1 YOL was 51% vs 46% for singleton vs multiple gestation respectively (aOR 1.1 [0.47-1.74]). Rates of neonatal complications in surviving infants were also similar. Of the 67 multiple gestations 15 (22%) had survival of all infants, 52 (78%) had death of at least one infant.

CONCLUSION: Survival and neonatal complication rates in periviable multiple gestations appear to be no different than singletons delivered at similar gestational ages.