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.

952 Prenatal phenotype of 47,XXY (Klinefelter syndrome)

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OBJECTIVE: The phenotypic description of prenatal Klinefelter syndrome (KS), or 47,XXY, is currently limited to case reports. There is a gap in knowledge regarding prenatal presentation of KS. We hypothesize that a significant percentage of pregnancies complicated by fetal KS will have associated ultrasonographic findings.

STUDY DESIGN: We retrospectively identified all fetuses with cytogenetically confirmed 47,XXY in the prenatal period or up to age 5 years, with prenatal records available for review from four prenatal diagnostic referral centers between 2006 and 2019. Ultrasound reports were reviewed to assess for the presence of increased nuchal translucency (NT) and abnormalities at the second trimester anatomy ultrasound. Additionally, we reviewed results of cell free DNA and serum analyte testing to inform our understanding of prenatal screening tests in the setting of fetal KS.

RESULTS: A total of 42 subjects with confirmed cytogenetic diagnosis of 47,XXY and prenatal records available for review were identified: 38 had a prenatal diagnosis of KS and 4 had a postnatal diagnosis. One case was excluded as cytogenetic analysis demonstrated mosaic KS, leaving a cohort of 41 subjects. NT was increased ≥3.0mm in 6 of 26 (23.1%) of cases that had a documented measurement. A second trimester anatomical survey was available for review in 24/41 affected pregnancies. In 7 of 24 (29.2%) ultrasounds, a fetal abnormality was identified. These include 3 brain anomalies, 1 cardiac abnormality, 1 echogenic bowel, and 2 limb abnormalities (table). In subjects who had cell free DNA performed, 92.6% had a positive result for 47,XXY (25/27); in subjects who had serum analytes performed, 36.3% (4/11) had a positive result.

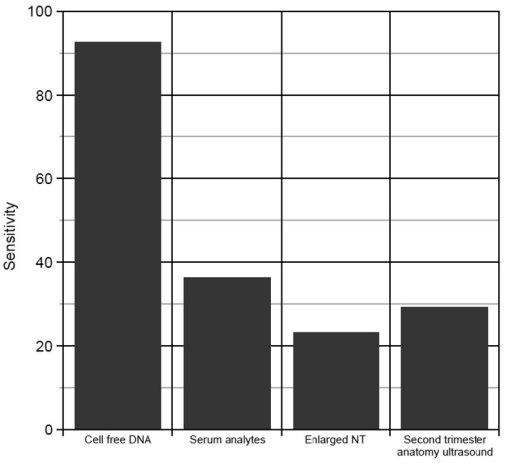
CONCLUSION: This case series expands our knowledge of the prenatal presentation of KS by identifying 1st and 2nd trimester fetal sonographic abnormalities as well as serum analyte abnormalities.

Table. Sonographic findings at the time of anatomy scan in patients with prenatal diagnosis of 47,XXY

	n=24	Specific finding	Gestational age at anatomy ultrasound	NT measurement
Normal	17	Normal anatomy	19 weeks 4 days[1]	2.1mm[1,2]
Cardiothoracic	1	Deviated cardiac axis and cardiomegaly	16 weeks 6 days	not done
Intracranial	3	1 Mild bilateral cerebral ventriculomegaly 1 Vermian hypoplasia with ventriculomegaly 1 Semilobar holoprosencephaly	20 weeks 5 days 18 weeks 2 days 20 weeks 4 days	not done 3.9mm not done
Gastrointestinal	1	Echogenic bowel	20 weeks 3 days	not done
Skeletal	2	1 Unilateral (right) clubbed foot 1 Bilateral shortened femurs and humeri	20 weeks 6 days 19 weeks 5 days	not done

Data presented as n
NT=Nuchal translucency
[1]Median value presented
[2]NT not measured In 7 subjects with structurally normal anatomy ultrasound

Figure. Sensitivity of prenatal screening tests for 47,XXY



NT – nuchal translucency. Serum analytes performed in first trimester, second trimester, or both, depending on institutional protocol and patient preference.

953 Risk of cervical shortening and spontaneous preterm births during the COVID19 pandemic

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OBJECTIVE: Data are mixed regarding preterm birth (PTB) rates during the COVID19 pandemic, with many reports suggesting a decrease in PTB. We sought to determine the rates of short cervix and PTB in our cohort during the pandemic.

STUDY DESIGN: This was a retrospective cohort study of women with singleton gestations presenting for anatomical survey between 16 and 24 weeks and delivering at a single-institution in NYC, where universal transvaginal cervical length (TVCL) screening is performed at anatomical survey and universal testing for COVID19 is performed at delivery. Included women had TVCL measurements between March and May, 2020 and delivered before 8/17/2020. Women with incomplete outcome data were excluded. Our primary outcome, cervical shortening, defined as TVCL <2.5cm was compared between exposure groups: women who ever tested positive for SARS-CoV-2 by RT-PCR or IgG positive by serology at any time during the pregnancy and those testing negative. Secondary outcomes included spontaneous PTB (sPTB), preterm prelabor rupture of membranes (PPROM) and other adverse perinatal outcomes. Data were abstracted from electronic medical records and compared between groups. The rate of sPTB was then compared to a historical cohort in the same delivery time period.

RESULTS: 316 women were included. Hispanics were disproportionally affected by COVID19 (Table 1). Of 60 COVID+ women, 33 (55%) women had positive RT-PCR, most with mild symptoms, and 53 (88%) women had positive IgG near delivery. There were no cases of short cervix in the positive group. The data suggest a higher rate of PPROM in the positive group but after controlling for confounders, our numbers were too small to confirm this difference (aOR 2.34, 95% CI 0.84-6.46) (Table 2). Similarly, there was no difference in sPTB rates between the groups (aOR 1.35, 95% CI 0.48-3.75). Further, there was no difference in sPTB relative to the same time period in 2019 (2.9% vs 3.1%, p=0.68).

CONCLUSION: In our cohort, COVID19 RT-PCR or IgG positive patients had a similar to slightly increased odds of cervical shortening, sPTB, and PPROM compared to negative patients.

Table 1: Patients characteristics and outcomes among pregnant women with singleton gestation seen for universal cervical length assessment during COVID 19 pandemic

	COVID19 RT-PCR and IgG negative (n=256)	COVID19 RT-PCR and/ or IgG positive during pregnancy (n=60)	P value
Baseline demographics			
Maternal age at delivery, *median (IQR)*	34 (30-37)	31 (27-36)	0.02
Race and ethnicity, *n (%)*			<0.01
Non-Hispanic Black	37 (14.5%)	7 (12%)	
Non-Hispanic White	85 (33.2%)	7 (12%)	
Hispanic	114 (44.5%)	44 (73%)	
Asian	19 (7.4%)	2 (3%)	
Native Hawaiian or Other Pacific Islander	1 (0.4%)	0	
BMI, *mean (SD)*	31.3 ± 6.7	31.9 ± 6.3	0.26
History of cone/ LEEP surgery, *n (%)*	15 (6%)	3 (5%)	>0.999
Prior spontaneous preterm birth, *n (%)*	14 (5%)	6 (10%)	0.23
Clinical characteristics			
Nulliparous, *n (%)*	116 (45%)	22 (37%)	0.25
Short cervix, *n (%)*	16 (6%)	0	0.049
Clinical status at initial COVID diagnosis, *n (%)*			
Asymptomatic	0	7 (12%)	n/a
Mild	0	25 (42%)	
Severe	0	1 (2%)	
Time between initial diagnosis of COVID to delivery (weeks), *median (IQR)*	0	12 (3-18)	n/a
COVID19 diagnoses, *n (%)*			
Any SARS-Cov-2 RT-PCR positive	0	33 (55%)	n/a
COVID19 IgG positive	0	53 (88%)	n/a
COVID19 RT-PCR positive near delivery	0	11 (18%)	n/a
COVID19 RT-PCR + IgG positive	0	26 (43%)	n/a
Comorbidities, *n (%)*			
Asthma	116 (45%)	25 (42%)	0.67
Cardiovascular disease (e.g. chronic HTN)	24 (9%)	6 (10%)	0.81
Diabetes mellitus, Pregestational	16 (6%)	1 (2%)	0.21
Diabetes mellitus, Gestational	36 (14%)	8 (13%)	>0.999
Hypertensive disorder of pregnancy (gDM, FEC, siPEC)	32 (13%)	6 (10%)	0.83
Hypertensive disorder of pregnancy (PEC and siPEC w/ SF, HELLP, Eclampsia)	28 (11%)	5 (8%)	0.65
Antenatal Complications, *n (%)*			
PPROM	12 (5%)	7 (12%)	0.06
Obstetric Complications			
Spontaneous preterm birth, *n (%)*	15 (6%)	6 (10%)	0.25
Indicated preterm birth, *n (%)*	41 (16%)	5 (8%)	0.16
Any preterm birth by gestational age, *n (%)*			
Preterm birth <28w	8 (3%)	0	0.36
Preterm birth <34w	19 (7%)	0	0.03
Preterm birth <37w	56 (22%)	11 (18%)	0.61
Neonatal outcomes			
Gestational age at delivery (weeks), *median (IQR)*	38.4 (37-39.4)	38.9 (37.3-39.5)	0.17
Birthweight (grams), *mean (SD)*	2983.5 ± 785.1	3149.3 ± 492.5	0.36
Cord gas pH arterial, *mean (SD), n*= 263	7.2 ± 0.1	7.2 ± 0.1	0.77
Cord gas pH venous, *mean (SD)* , n=286	7.3 ± 0.1	7.3 ± 0.1	0.24

Table 2: Ajusted odds of sPTB and PPROM by COVID19 status

		aOR (95% CI)
	COVID19 RT-PCR and IgG negative	COVID19 RT-PCR and/ or IgG positive
Spontaneous preterm birth	reference	1.35 (0.48, 3.75)
PPROM	reference	2.34 (0.84, 6.46)

aOR, adjusted odd ratio. Model adjusted for maternal age at delivery, body mass index, race/ ethnicity

954 Telehealth use for maternity care by location during the COVID-19 pandemic in north carolina

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OBJECTIVE: To describe variations in telehealth use for maternity care among practices from metropolitan and rural/micropolitan counties in the state of North Carolina (NC).

STUDY DESIGN: We conducted a web-based survey of telehealth use among all practices in NC that provided prenatal care from July 14 to September 15, 2020, with a particular focus on use during the COVID-19 pandemic. Practices were identified through NC Medicaid's statewide populations management strategy, Community Care of NC's Pregnancy Medical Home Program. County population density was classified as rural, micropolitan, or metropolitan based on definitions from the Core Based Statistical Areas by the US Office of Management and Budget 2019. Types and frequencies of telehealth use were compared between practices in rural and micropolitan counties versus those in metropolitan counties. Analyses were conducted using STATA 15 with a significance level of $p<0.05$.

RESULTS: 295 practices in NC were surveyed and 99 practices responded (response rate: 34%). Responding practices represented 62/88 (70%) counties in the state with prenatal care practices. Practices from metropolitan counties comprised 47.5% of survey respondents. Eleven practices (22%) reported using telehealth prior to the COVID19 pandemic and 63 (64%) reported using telehealth during the pandemic. While the frequency of telehealth use was higher in metropolitan counties as compared to rural/micropolitan ones, this difference was not statistically significant (Table 1). Telephone and video visits were the most common telehealth modalities among all responding practices. There were no statistically significant differences in the use of various modalities between rural/micropolitan and metropolitan practices (Table 2).

CONCLUSION: During the COVID-19 pandemic in NC, there were no significant differences in the use of telehealth to provide maternity care or in the various individual telehealth modalities between rural/micropolitan and metropolitan practices.

Table 1. Telehealth Use Before and During the COVID19 pandemic by Practices in Rural/Micropolitan versus Metropolitan Counties

	Metropolitan (n=47)*	Rural/Micropolitan (n=42)	P-Value
Telehealth Prior to Pandemic	7 (15)**	1 (2)	0.88
Telehealth During Pandemic	35 (75)	19 (45)	0.10

*Data are shown as n(%)

** Percentages may not add to 100% as responses were not required or participants might have marked "Unknown"

Table 2. Modality of Telehealth Use during the COVID19 pandemic Amongst Rural/Micropolitan Practices versus Metropolitan Practices

	Metropolitan (n=47)*	Rural/Micropolitan (n=42)	P-Value
Telephone Visit*	33 (70)**	18 (43)	0.12
Virtual Video Visit	27 (58)	15 (36)	0.21
E-consultation	7 (15)	1 (2)	0.88
Remote Monitoring	5 (10.6)	6 (14.3)	0.75
Electronic Portal	5 (10.6)	2 (4.8)	0.36
Remote Imaging Interpretation	4 (8.5)	0	n/a

* Data are shown as n(%)

** Percentages may not add to 100% as responses were not mutually exclusive