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Indian	ARIPET	RIGINAL RESEARCH PAPER RETROSPECTIVE STUDY ON MATERNAL AND TAL OUTCOME OF PREGNANT WOMEN TH COVID 19 IN GREAT EASTERN MEDICAL HOOL AND HOSPITAL (GEMS HOSPITAL), A RTIARY CARE CENTER, SRIKAKULAM	Obstetrics & Gynaecology KEY WORDS: covid 19, pregnancy, maternal outcomes	
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	Coronavirus disease 2019 (COVID-19) is an emerging disease and is caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). There are many unknown facts regarding pathological process in pregnant women during			

coronavirus 2 (SARS-CoV-2). There are many unknown facts regarding pathological process in pregnant women during the COVID-19 pandemic. Physiological changes during pregnancy have a significant impact on the immune system, respiratory system, cardiovascular function, and coagulation. These may have positive or negative effects on COVID-19 disease progression. The impact of SARS-CoV-2 in pregnancy remains to be determined, and a global effort is required to determine the effects on implantation, fetal growth and development, labour, and neonatal health. Asymptomatic infection presents a further challenge regarding service provision, prevention, and management. Vertical transmission is plausible, but mechanisms are uncertain. Severe neonatal disease appears to be rare. In this study, we present maternal and fetal outcomes in 77 pregnant women affected with COVID 19 in all trimesters in a duration of one month (July 5th to August 3rd 2020)

INTRODUCTION:

ABSTRACT

Coronavirus disease 2019 was first identified in Wuhan, China, in December 2019. Also known as COVID 19 disease, it is caused by novel corona virus nCoV or SARS CoV-2¹. It is a single stranded RNA enveloped virus causing varying degrees of illness ranging in severity from the common cold to severe respiratory illness and death². In March 2020, the World Health Organization (WHO) declared a global pandemic of COVID-19 caused by SARS-CoV-2. As of July 2021, there have been >185 million confirmed cases and >4 million deaths reported worldwide.³ Many physiological and anatomical changes of pregnancy affect the respiratory system. This may complicate or delay the diagnosis or the clinical course of the disease, thereby increasing morbidity and maternal mortality rates². But more studies are required to establish the fact.

Initially it was thought no evidence supports vertical transmission of COVID-19, including vaginal delivery. Emerging evidence now suggests that vertical transmission is probable⁴. But, the proportion of pregnancies affected and the significance to the neonate is yet to be determined⁴. There is currently no data suggesting an increased risk of miscarriage or early pregnancy loss in relation to COVID-19. At present, there are no recorded cases of vaginal secretions or breast milk being tested positive for COVID-19. There is no evidence currently that the virus is teratogenic.⁴

MATERIAL AND METHODS:

Study design: Retrospective observational study

Study Sample: All the pregnant women with covid 19 admitted in GEMS hospital during a period of one month (5^{th} July 2020 to 3^{rd} August 2020) are involved in the current study.

Sampling strategy:

Inclusion criteria:

Pregnant women belonging to any trimester with confirmed COVID 19 infection by rapid kits or TRUNAT or RTPCR are included in the study.

Methodology:

Medical records of all the pregnant women admitted in GEMS hospital during the period of one month $(5^{th}July to 3^{rd}August 2020)$ were retrospectively studied. For each patient, a

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detailed clinical history regarding the pregnancy including age, address, parity, period of gestation at which COVID 19 was diagnosed, any medical conditions complicating the pregnancy and any comorbid conditions were taken. The information regarding history of symptoms of COVID 19 infection at admission i.e fever, cough, nasal congestion, dyspnoea, other symptoms which include anosmia, headache, malaise, sore throat etc were taken. The data was collected regarding pregnancy- specific medications, therapy for COVID-19, use of low molecular weight heparin (LMWH), oxygen supplementation, duration of hospital stay, any complications developed in the patient due to COVID 19, any patient was referred to higher centre.

Those patients who delivered in this one-month duration were observed for mode of delivery, if it was a Caesarean section, indication for caesarean section, post-operative status of the mother and status of the neonate regarding positivity for covid 19 infection, any other complications, any investigations and any NICU admissions on advice of consulting paediatrician.

Routine consent was taken. Personal protective equipment was used in attending professionals. Rooming-in and breastfeeding are given under appropriate preventive measures. Health education was given regarding "Do the FIVE"-HOME, HANDS, ELBOW, FACE, SPACE.

RESULTS:

Total no of patients in the study:	77	
Mean age of the subjects	23.8 years	
Standard deviation	3.74years	
Asymptomatic	49 (63.6%)	
Symptomatic.	28 (32.4%)	
Fever	50%	
Cough	46%	
Anosmia	17%	

Table 1-No. Of Patients According To Gestational Age

Period of gestation	No. of subjects
≤14weeks	2
14-28 weeks	9
≥28 weeks	58
Term	33

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Of the total 77 subjects, 11 (16%) belonged to 1st and 2nd trimesters &58 (&84%) to third trimester. Of them, 33 (56%) are term pregnancies. Associated obstetric complications were seen in 36 (&46.7%) patients.

Total no of deliveries conducted: 27. Out of them, 26 were spontaneous onset & 1 case was induced. Total no of vaginal deliveries conducted were 8, out of which 4 were Normal vaginal deliveries, 1 was an assisted breech delivery & 1 was Induced at 31 weeks in v/o IUD and in two patients, outlet forceps was applied.

Table 2

Associated Obstetric Complications:	No. of subjects
Post caesarean pregnancy	24
Anemia	13
Pre-eclampsia/ G.HTN	4
Gestational Diabetes	1
Rh negative pregnancy	1
Heart disease	1
Hypothyroidism	4
Uncomplicated	38

Graph 2



Total no of Caesarean sections performed were 19. Out of them, Primary LSCS were 10 and repeat LSCS were 9. Indications for LSCS conducted were Previous Caesarean Section in 9 (47.3%) cases, Cephalo-Pelvic Disproportion in 4 (21%), Non-Progression of Labour with Premature Rupture of Membranes (PROM) >24hrs: 3 (16%) and Fetal distress in 3 (16%) of cases.

Neonatal outcomes:

Out of 26 live births: all were attended by paediatrician. 1 baby required oxygen supplementation with nasal prongs for 2days, 2 were kept on oxygen supplementation with mask for 24hrs, 1 required phototherapy in view of Neonatal jaundice for 3days and only one baby was referred to NICU - died in NICU on day 2 of life and the baby was tested positive.

CONCLUSION:

Most of the pregnant women are asymptomatic with $1/3^{rd}$ of them having mild disease in the present study. Almost 90-95% of pregnancies in the study had uneventful antenatal, intrapartum and postpartum period except for 3 cases - one had

missed abortion, one pregnancy ended up in IUD and one neonatal death was noted. The cause of death, whether it was because of prematurity and meconium aspiration (obstetric cause) or COVID19 infection (vertical transmission), is unclear. All post-natal mothers were treated symptomatically. Neonates from COVID-19-positive women were tested at the time of discharge and 26 out of 27 babies were negative.

Limitations of the study:

The duration of the study was only one month. Radiologic investigations like X-ray and HRCT of chest were not done as most of them were asymptomatic or had only mild disease. There is lack of information relating to the final obstetric and neonatal outcomes of patients who had not delivered by the end of the study period.

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