

Original Article

COVID and Women's Health in India

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Background : COVID-19 disease surfaced in Wuhan in December, 2019 and rapidly spread in the World as a pandemic (March, 2020) Till date (10 August) COVID-19 has affected 20 million people. Many women have delivered and many conceived during this time. Till date very few adverse effects and vertical transmission is observed. WHO later changed the terminology to SARS-COV-2 and removed '19' from the name.

Material and Method : We studied Maternal and Perinatal outcome of COVID confirmed pregnancies and the effects of CORONA infections on Women's Health.

Results : Most of the patients were asymptomatic. Majority 80% cases of our cases were delivered by Cesarean Section. Cesarean Section was done for Obstetric reasons along with early consideration due to COVID concerns. Meconium Stained Liquor and Fetal Distress was the indication of Cesarean in 14% cases. Previous Cesarean Sections was a major cause of repeat cesarean in our study. Preterm labour was reported in only one case of Twin Pregnancies. Premature Rupture of Membranes was not seen in any of the pregnancies. Maternal and Fetal outcome were favorable with only few cases of mild to moderate Pneumonia in mothers.

Most of the women were psychological disturbed due to the Lockdown and had unwanted pregnancy (due to lack of contraceptive availability), domestic violence and also family disputes and child beating were reported by many in the survey. Due to lack of Medical Services by the GP's and the friendly small Obstetrics Gynaecology clinics (closed due to Lockdown) small problems got aggravated and a lot of these women one now coming up with Anemia, Polycystic Ovarian Syndrome (PCOS), Fibroids, Abnormal Uterine Bleeding (AUB), Endometriosis, Pelvic Inflammatory Disease (PID), Cervical Croisers, Vaginitis, Obesity etc.

Conclusion : Coronavirus infection in pregnancy did not adversely affect the pregnancy and has a benign course. Pregnant women are not at higher risk of developing Pneumonia compared to non pregnant women. There is no evidence of increased risk of miscarriage or foetal losses with COVID-19 infection during pregnancy. But SARS-COV-2 disease a lot of other Gynaecological problems and adversely affected Women's Health.

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Key words : COVID- 19, Pregnancy Perinatal Outcome, Vertical transmission, Maternal outcome, Pregnancy Outcome, Corona virus, COVID-19 pandemic.

Since the declaration of COVID-19 as a pandemic on March 13th 2020 and renaming the disease as SARS-COV-2 by WHO, the World Health Situation has been adversely affected over 218 countries are still reeling under the Corona Virus attack (as of July, 31st)¹.

On December, 2020 the world is facing the second & Third wave and Lockdown again.

A total of 69.6 million (December 1st) World population has been affected and the virus is killing people in huge numbers. The death count stands at 1.58 million (December 1st)².

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Editor's Comment :

- Even through pregnancy is a state of reduced immunity of the women, COVID infections are being seen as mild in pregnancy during the first wave. SARS-COV-2 disease can produce serious problems in Mother & Fetus, hence it is necessary for all pregnant & lactating women to get vaccinated & to follow COVID appropriate behaviour.

The pandemic has hit Women's Health ever more severely unwanted pregnancies are estimated to be in millions. About 4.5 million abortions could not be done in India due to Lockdown and routine OPDs being shut, sterilization services halted and normal hospitals being converted to dedicated COVID centres to be prepared for the pandemic. Millions have given births during the pandemic. It is expected that due to lack of reproductive services in the last 5 months, the number of births will be 24.1 million from January to December, 2020. According to UNICEF India & China will face largest burden of pandemic pregnancies and births, 20.1 million expected in India³ and also various other

Women's Health problems (Gynaecological problems).

MATERIAL AND METHOD

A survey was done on all women attending OPD in the Lockdown pandemic period and in Unlock period.

Gynaecological patients were divided in AUB, Unwanted pregnancy, Incomplete / Ectopic pregnancy, Psychological problems, Domestic violence. We wish to state that descriptive statistics have been used in our study as percentage.

RESULTS

Obstetrics :

From 15th March to 1st December we had 135 Corona virus RT-PCR confirmed cases of which mean age of the patients was 27.2 years, majority of patients (90%) had no symptoms, rest had only mild illness (low grade fever, cough and sore throat). They did not develop symptoms during the course of their stay in hospital. Ninety percent patients were more than 32 weeks gestation at presentation.

Many patients come in advanced labour where waiting for the RTPCR test report was not possible and these were triaged and delivered after a Rapid Antigen testing.

Gynaecology :

Maternal Outcome :

Only 10 patients presented at first trimester, First was a case of twin pregnancy conceived as a result of in-vitro fertilization but landed in Missed abortion at 12 weeks but her abortion could not be clearly attributed to COVID -19 because she was already at high risk of abortion, but her further testing of causes of abortion could not be done.

Two cases were first trimester ruptured Ectopic Pregnancies for which Laparoscopy and Salpingectomy was done. Three pregnancies reported in second trimester were at 16 weeks and other at 24 weeks with Cholecystitis Maternal Comorbidities like Gestational Diabetes and Hypothyroidism were present in only 1-2% cases. Pre-eclampsia was reported in 8% cases

Intrauterine Fetal death was reported in 2 cases, one presented at 32 weeks and other at term with Fetal Distress. Only 3 patients had moderate Pneumonia on CT and they recovered. One patient had severe Pneumonia and recovered on BiPap. One case of Vaginal delivery with only mild fever was discharged in healthy condition but she expired on the way to hospital on 5th day of delivery. her sample

report was awaited at the time of discharge. One more Maternal Mortality was reported in our cases. Maternal outcome was overall favourable as infection acquired at term was not likely to cause adverse Fetal outcome and our cases were mostly near term.

Fetal Outcome		Total births (n=135)
Fetal Complications	IUGR	3 (2.1%)
	Thick Meconium stained Liquor	21 (14.9%)
	Still Born	3 (2.1%)
Mean Apgar score (1 minute)		8 ± 1
Mean Apgar score (5 minutes)		9 ± 1
Mean Birth weight (g)		2800 ± 386 gram
SARS-CoV-2 infection in Neonate Tested by RT- PCR 36- 48 hours after delivery		0
Perinatal complications	Premature delivery	3 (2.1%)
	Low birth weight (<2500 g)	8 (6.3%)
	Live birth	132 (97.9%)
	Severe neonatal asphyxia	5(3.7%)
	Neonatal intensive care unit admission	6 (4.2%)
	Neonatal death	2(1.5%)

Mode of Delivery:

Majority 80% cases were delivered by Cesarean Section. Cesarean Section was done for Obstetric reasons along with early consideration due to COVID concerns. Meconium stained liquor and Fetal distress was the indication of Cesarean in 14% cases. Previous Cesarean sections were a major cause of repeat Cesarean in our study. Preterm labour was reported in only one case of Twin pregnancies. Premature Rupture of membranes was not seen in any of the pregnancies.

Gynaecology Outcomes :

Treatment Prescribed :

We did not prescribe antiviral drugs, **none of these patients received Remdesivir, Ticloziber or Plasma Therapy till August.** After August the patients were given Remdesivir and seriously ill patients were transferred to COVID Hospitals.

Routine steroids or Hydroxy chloroquine were not prescribed to patients. Antibiotics were prescribed to all patients. It took approximately 9 days for RT-PCR to become negative in all patients. All Cesarean Sections were done in Spinal anaesthesia.

Labour Room Management :

Continuous Fetal Heart rate monitoring was done. All staffs were donned in proper personal protective equipments. Active management of third stage was done in all cases. 2 cases had Postpartum Hemorrhage, one was given condom Catheter (ballon

tamponade) which was removed 48 hours after delivery and other case was given compression sutures at the time of cesarean section.

Postpartum Management :

Postpartum baby as separated from the mother till mothers COVID-19 RT-PCR was negative. Breast feeding was allowed after mothers report was negative. One baby who breast fed as mothers COVID status was not known was confirm RT-PCR positive, rest all babies (100%) were negative for COVID-19, test being done 48 hours after delivery. We also examined Amniotic Fluid and Breast Milk in 3 cases and they had no evidence of Coronavirus infection.

Neonatal Outcome :

Apgar score was good in all Neonates except 2 cases of Neonatal Asphyxia, which were shifted to Neonatal ICU. We found that Fetal Affection in the last trimester did not affect baby weight or growth. Intrauterine Growth Restriction (IUGR) was present in cases with associated Preeclampsia

DISCUSSION

Pandemic pregnancies are not only facing lack of Antenatal care, Intranatal care, Postnatal care but a Major problem of Psychological Stress⁴.

Maternal stress has been linked with neurodevelopmental disorders in babies. Anxiety and depression have been moderately increased in pregnant women in India. Babies born are likely to be at risk of Neuro developmental problems, Attention deficit Hyperactive Disorder and Autism. More preterm, growth retarded and medically disorder complicated pregnancy and births are likely to happen⁴.

Although pregnancy is an immune compromised state and pregnant women are at an increased risk of acquiring viral infections like Severe Acute Respiratory Syndrome (SARS) and Middle East Respiratory Syndrome (MERS). Till now there has been no documented evidence that pregnant women are at increased risk of acquiring COVID-19 than general population. We also reached to the same conclusion. Similarly, apart from one or two case reports, there is no evidence that COVID-19 has vertical transmission⁴. Most of the Placentas, Amniotic fluid, Cord blood and Blood and Respiratory samples of Neonates born to COVID-19 positive mothers, have been found to be negative. SARS and MERS caused adverse Obstetric outcome during pregnancy with higher Maternal Morbidity and Mortality, vertical transmission of virus and increased risk of miscarriages, Perinatal Infections and Perinatal Mortality^{5,6}. No such adverse impact of COVID-19 has been observed during Gestation. This

is currently a priority for research and the data is at an evolving stage. It will take several years to completely understand the implications for babies born in the COVID-19 pandemic. Pregnant women being young may not develop Dyspnoea or other symptoms till late disease and then suddenly may collapse with very advanced disease. Use of Pulse Oximetry may be of use to detect severe disease in early stages.

Schwartz analysed 38 pregnant women with COVID-19, their newborn infants and Maternal-foetal Transmission from China and reported no maternal death, no intrauterine transmission of COVID-19 from mother to their foetuses with all Neonatal Specimens and breast milk tested being negative for the virus⁵.

There is no evidence of risk of miscarriage or foetal losses with COVID-19 infection during Gestation. As per studies available till date, COVID-19 is not teratogenic and COVID-19 infection during pregnancy doesn't warrant Medical termination of pregnancy. Although, there were some case reports of premature labour, Preterm Prelabour Rupture of Membranes (PPROM) and Foetal compromise, most other studies reported normal outcome. Also, Preterm labour can be iatrogenic or due to poor Maternal condition in some cases⁸⁻¹¹.

Should We Routinely Screen All Women Attending Antenatal Clinics :

A study by Sutton in The New England Journal of Medicine analyzed data from pregnant women who delivered in New York City and reported that out of 215 patients, 88% of women who tested positive for COVID-19 did not show any symptoms. By routine screening of asymptomatic women by Breslin *et al* and D Sutton *et al* 13.7% COVID positive pregnant women were found^{13,14}.

Routine screening of all women is not cost effective and is not recommended in India in the current scenario. There is risk of failure of Healthcare system if COVID-19 cases rise putting burden on hospitals and staff. We should judiciously use the limited resources for best possible outcome. Capanna *et al* "from their experiences in Europe at the peak of COVID-19 pandemic have recommended preparation of an Obstetric unit with quick reorganization¹⁵.

Available literature does not support that Coronavirus crosses the Placenta and infects the Fetus; few cases of in Utero infection have been reported. Most studies of Amniotic fluid, Cord blood, Vaginal secretions and Breast milk did not find vertical transmission. A meta-analysis was published by Mascio *et al* in the American Journal of Obstetrics and Gynaecology MFM¹⁶ in which 41 COVID positive

Pregnant Women were studied and the following complications were noted:

Preterm birth <37 weeks (41.1%), PPRM (18.8%), Preeclampsia (13.6 %) and Caesarean delivery (91.1 %). Emerging evidence now suggests that vertical transmission is probable, although the proportion of pregnancies affected and the significance to the neonate is yet to be determined.

Chen *et al* and others have found no evidence of COVID-19 in the Amniotic Fluid or cord blood of infants of infected women¹⁷. At present, there are no recorded cases of vaginal secretions being tested positive for COVID-19. Liu *et al* didn't find any aggravation of symptoms or CT features of COVID-19 Pneumonia in their study on pregnancy and Perinatal outcome in COVID-19 Pneumonia patients¹⁸.

Evidence from China suggests that the virus may be transmitted vertically (from mother to the baby from the Placenta Babies all born by C-section, to COVID positive mothers, tested positive for Coronavirus. At present, there are no recorded cases of breast milk being tested positive for COVID-19^{19,20}.

There are currently no data suggesting an increased risk of miscarriage or early pregnancy loss in relation to COVID-19 nor evidence that the virus is Teratogenic. Long term data is awaited.

COVID-19 infection is currently not an indication for Medical Termination of Pregnancy.

A report concluded that only 8% had what the WHO classified as "Severe Disease" and 1% were "Critical"¹⁸⁻²⁰.

It was determined that they weren't more likely than Non-pregnant people to develop a life-threatening illness.

A study of pregnant women with confirmed COVID-19 found that unlike SARS and H1N1, pregnant women do not seem to experience more severe illness from the Coronavirus compared to the general population²⁰.

They warn that the data reflect small numbers and more studies are required.

All results may change with availability of more data from the World as scenario is changing each day. However, women with comorbidities especially congenital and acquired heart disease are more at risk of getting the viral disease and are at increased risk of serious disease like COVID Pneumonia. They should be particularly taken care of by the attending Obstetricians for Optimum Outcome and timely transfer to Intensive Care Unit (ICU) in case of need for the same.

COVID disease has increased the problems of providing proper reproductive care to our women. A

surge of unwanted pregnancy, self medication for abortions and MTP's has been noted all over the Country.

This problem of lack of care & fear is likely to persist for a year (Post COVID years).

A new strategy must be quickly put into place to ensure women don't die and women are not denied of the essential reproductive services (Contraception, MTP, Gynaecological disease evaluation, Surgery, Infertility treatments and Safe pregnancy and safe delivery and post partum care).

Limitations :

The study was carried out in the First wave of COVID infection as an observational study and there was not enough data to support.

Conclusion :

Covid (SARS-COV-2) (Coronavirus) is here to stay for long time.

Our observations indicate, if we give proper care we can manage most of the COVID-19 pregnancies safely in the First wave. COVID-19 did not alter the course of pregnancy in late third trimester. Neonatal outcome is also not affected but it can cause serious concerns in Mother and Fetus according to statistics of Second wave. It is important for all to follow COVID appropriate behaviour and get vaccinated.

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