Original Research Article

Feto-maternal outcome in Covid infected pregnancies over 3 month period from semi-urban Medical Colleges – A prospective study

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International Archives of Integrated Medicine, Vol. 7, Issue 10, October, 2020.
Available online at http://iaimjournal.com/
ISSN: 2394-0026 (P) **ISSN: 2394-0034 (O)**
Received on: 05-10-2020 **Accepted on:** 11-10-2020
Source of support: Nil **Conflict of interest:** None declared.
How to cite this article: Gayatthri Sri Sri, R. Aravind, Vani Isukapalli, Shamshad Begum. Feto-maternal outcome in Covid infected pregnancies over 3 month period from semi-urban Medical Colleges – A prospective study. IAIM, 2020; 7(10): 158-161.

Abstract

Background: COVID-19 disease is a novel and recent infection, significant number of pregnant women contracted COVID infection similar to general population. Pregnancy itself being a state of mild immunosuppression, the maternal and perinatal outcome could be significantly affected by the disease. This study was an attempt undertaken in two semi urban government medical colleges to study the feto-maternal outcome in COVID-19 infected pregnancies.

Materials and methods: All ante natal cases attending to ER with labor pains and all ante natal cases within one week of their expected dates were enrolled. The COVID status was tested either with RT-PCR or with rapid antigen testing kits. Those found positive were delivered in special COVID wards and the outcomes were observed. The time period taken was 3 months from July 1st to September 30th 2020.

Results: Out of the total deliveries happened in the study period, COVID 19 positive rate was around 10%. None of the babies tested were positive at discharge.
Conclusions: When standard practice protocols and guidelines were observed, maternal and peri natal outcomes were not different from non COVID deliveries.

Key words

COVID-19, PPE, RT-PCR, RAT kits.

Introduction

The COVID-19 epidemic begun in India from the month of March 2020. Though strict lockdown rules were imposed on the public, yet the disease progressed rampantly throughout the country with peak incidence from July onwards. Similar is the condition in the state of Andhra Pradesh which stood second in testing for COVID-19. From the month of May, routine testing of all ante natal mothers getting admitted for institutional deliveries were tested according to the ICMR guidelines [1, 2]. The guidelines confidently stated that the vertical transmission of the virus to the in utero fetus is possible but the significance is yet to be studied further. It also said that there is no record of cases of the breast milk tested positive for COVID 19. All COVID 19 positive deliveries are segregated to a specialized isolate ward which was meant exclusively to handle these cases by health care workers wearing full Personal Protection Equipment (PPE). The intra partum and the neonatal facilities were rendered to all COVID infected woman, I the same guidelines as for general population.

The greatest tool to prevent COVID-19 Infection in the general population and for pregnant women is Social Distancing. As per the Government of India advisory, this is a non-pharmaceutical infection prevention and control intervention implemented to avoid contact between those who are infected with the disease and those who are not, so as to stop or slow down the rate and extent of disease transmission in a community [1, 4].

Separate delivery room and operation theatres are required for management of suspected or COVID-19 mothers. Both should have neonatal resuscitation corners located at least 2 mts away from the delivery table. Resources required include space, equipment, supplies and trained healthcare providers for delivery, cesarean section and neonatal resuscitation. The standards and facilities required for infection control in these areas should be same as that for other adults with suspected or COVID-19 infection.

Depending on the clinical picture and severity of the condition, a multispeciality team may be involved in caring for the pregnant woman in labor. The anesthetist and neonatologist should be informed of such a woman presenting in labor.

Timing of delivery should not be altered on the basis of COVID-19 infection. The presence of infection is not an indication to induce labor or deliver the woman. The exception to this would be the critically ill pregnant woman where delivery may be indicated to relieve the extra metabolic and pulmonary load. However, the possible benefits of this need to be weighed against the possible risks of worsening the systemic status with a surgical intervention. Such a decision has to be guided by individual circumstances including the degree of clinical stability, gestational age, available infrastructure and the couple's wishes.

In labor, monitoring should include the periodic evaluation of the respiratory status with a watch for symptoms of difficulty or shortness of breath, respiratory rate, pulse rate and oxygen saturation on pulse oximetry. If there is a deterioration of these features, intensive care measures would be required including ventilation [4].

As such, the pregnant woman with COVID-19 infection can be allowed to labor and indications for interventions should follow standard obstetric practice. A prolonged labor may be detrimental to the general condition of a woman who has systemic illness. There could be further maternal deterioration. Prolonged oxytocin infusion and volume overload should be avoided. With every examination and contact, healthcare workers should be mindful of adequate protective gear. It may be prudent to offer continuous electronic fetal monitoring in labor for women with COVID-19 infection wherever such facilities are available [4, 5].

Aim

- To study the maternal and perinatal outcomes in Covid 19 deliveries.
- To study the effect of Covid on HCWs involved in labor room and theatres.

Materials and methods

This study was undertaken in two semi urban medical colleges - Ananthapuramu and Srikakulam, Andhra Pradesh.

Time period: All ante natal cases enrolled during the months of July, August and September 2020.

All ante natal cases admitted for labor and those within one week of EDD were enrolled for this study.

All enrolled for this study were tested for their COVID 19 status either with RT-PCR, TRUENAT or Rapid Antigen Test Kits depending upon availability of kits and time remaining for delivery. Once tested positive, these women were transferred to special Covid care blocks which were fully equipped to handle deliveries and surgeries. COVID 19 status itself was not an indication for elective induction or C-section but due to the limited man power availability only short inductions were permitted in indicated cases.

All women in labor were monitored with pulse oximeters to keep oxygen saturation above 95%. All cases had electronic fetal monitoring and partographic evaluation. Decision to shorten the second stage of labor was individualized. All elective caesarian sections were planned thoroughly after consultations with anesthesiologists and pediatricians. All health care personal rendering intra partum care were observing total safety precautions with PPE kits and other protective gear.

All new borns were partly isolated from their mothers except when they were breast fed. All newborns were tested between 4^{th} to 7^{th} day for COVID 19 by RT-PCR. All cases were discharged from 14^{th} day of their initial testing for COVID status. All babies received immunization as per standard as per standard guidelines. All women at discharge received counselling regarding safety measures and precautions at home isolation.

Results

Incidence of COVID 19 deliveries and route of delivery was as per **Table – 1**. Neonatal statistics was as per **Table – 2**. HCW got tested for Covid after their stipulated duties was as per **Table – 3**.

Table – 1: Incidence of COVID 19 deliveries and route of delivery.

	Total	**Covid positive**	**Percentage**
Admissions	6711	730	10.87%
Deliveries	3870	506	13.07
Normal deliveries in covid positive	506	224	48.22
C sections among covid positive	506	282	51.88
Elective c sections	282	198	70.21
Emergency c sections	282	84	29.79
Live births	506	500	98.81

Table – 2: Neonatal statistics.

	Total	Services utilized	Percentage
Testing for covid	500	500	100
Breast feeding	500	500	100
Immunization	500	480	96
Vit k administration	500	442	88.4

Table – 3: HCW got tested for Covid after their stipulated duties.

	Total	Positive	Percentage
Obstetricians	24	4	16.66
anesthesiologists	32	11	34.3
Post graduates and interns	41	14	34.14
Nursing staff	38	8	21.05
Para medics	38	5	14.28

Discussion

This covid 19 pandemic taught the stake holders many key issues regarding health care delivery flaws. In spite of lockdown the covid cases drastically raised in numbers despite safety precautions. The incidence of COVID in pregnant woman was roughly 10%. Al of them were asymptomatic and did not require special medications for COVID and having dedicated special wards to deal with these cases helped in reducing the cross infection among ante natal women. In spite of using protection gears, the health care workers got infected to an average of 25%. None of the babies became positive shows that the likelihood of transplacental or through breast feeding is not established.

Conclusion

Covid 19 disease is novel disease, wherein the whole world is perplexed in formulating the management protocol. There are many areas in this disease where the pathophysiology is yet to be understood. Adhering to the guidelines and protocols issued by the national authorities is the key to success in delivering pregnant women with COVID positive status.

References

1. Guidance for management of pregnant women in COVID 19 Pandemic- ICMR guidelines. Available at https://www.icmr.gov.in/pdf/covid/techdoc/Guidance_for_Management_of_Pregnant_Women_in_COVID19_Pandemic_12042020.pdf
2. Clinical management protocol of corona virus disease 2019 in pregnancy – ACOG guidelines.
3. Pregnancy childbirth breastfeeding and COVID 19- WHO guidelines. Available at https://www.who.int/reproductivehealth/publications/emergencies/COVID-19-pregnancy-ipc-breastfeeding-infographics/en/
4. GCPR guidelines- COVID in pregnancy – federation of obstretics and gynaecological society of India. Available at https://www.fogsi.org/category/good-clnical-practice-recommendations/
5. Corona infection in pregnancy- RCOG guidelines. Available at https://www.rcog.org.uk/coronavirus-pregnancy