

Obstetrical Outcome of COVID-19 Positive Pregnant Women in A COVID Dedicated Hospital in BiharShanti Snehlata¹, Puja Verma², Usha Kumari³¹Assistant Professor, Department of Obs & Gynae, Nalanda Medical College & Hospital, Patna²Senior Resident, Department of Obs & Gynae, Nalanda Medical College & Hospital, Patna³Professor & HOD, Department of Obs & Gynae, Nalanda Medical College & Hospital, Patna

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Conflict of interest: Nil

Abstract:**Background:** During the COVID-19 pandemic (2020 -2021) our hospital was Covid dedicated tertiary care center. COVID-19-positive pregnant women and women in immediate post-partum period were admitted in LRE. Covid positive pregnant women were referred from other hospital for appropriate management.**Aims & Objective:** The aim is to study the effect of Covid-19 infection in pregnant women with regards to maternal and perinatal outcome. The ultimate aim is to use this knowledge in the management of COVID-19-positive pregnant women for better maternal and perinatal outcome.**Material and Method:** Covid-positive pregnant women and women in post-partum period admitted in the labour room emergency from May 2020 to June 2021 were included in the study. The study parameters included chief complaint, gestational age, mode of delivery, abortion, operative intervention, maternal or perinatal complication etc.**Results:** In my study 29 pregnant women and one woman on 5th post-op after LSCS were admitted in LRE during the study period. Two patients had incomplete abortion (6- 8 weeks). Almost 96% women were delivered by LSCS. All the neonates were COVID-19-negative on the first day of delivery. There was one maternal death and one perinatal death.**Conclusion:** Majority (almost 93%) of Covid positive cases are either asymptomatic or has mild symptoms. Maximum (96%) cases are delivered by LSCS. There is no Tran's placental transmission. Spontaneous abortion may occur in early pregnancy due to COVID-19.**Keywords:** COVID-19, D&E (dilatation & evacuation), LSCS (lower segment Caesarean section), RTPCR (test for Covid-19 infection), LRE (labour room emergency).This is an Open Access article that uses a funding model which does not charge readers or their institutions for access and distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>) and the Budapest Open Access Initiative (<http://www.budapestopenaccessinitiative.org/read>), which permit unrestricted use, distribution, and reproduction in any medium, provided original work is properly credited.**Introduction**

Coronaviruses are a group of enveloped RNA virus. [1] In December 2019, a high incidence of pneumonia with unknown causes was detected in Wuhan, China. In January 2020 this was identified as a new type of coronavirus called SARS-Cov-2 as the cause of 2019 novel coronavirus infectious disease called COVID-19. [3] The infection moved rapidly through China, spread to Thailand and Japan, extended into adjacent countries through infected persons travelling by air, eventually reaching multiple countries and continents.

Similar to such other coronaviruses as those causing the Middle East respiratory syndrome (MERS) and severe acute respiratory syndrome (SARS), the new coronavirus was reported to spread via natural aerosols from human-to-human.

In the early stages of this epidemic the case fatality rate is estimated to be approximately 2%, with the majority of deaths occurring in high risk

populations. The obstetric outcomes in pregnant women with COVID-19 include fetal distress, intrauterine fetal death PROM, preterm labor, Multiple Organ Dysfunction Syndrome (MODS) and etc. The most common delivery mode in women affected with COVID-19 was cesarean section in most of the studies [1].

Material and Method

The duration of study was fourteen month that is from May 2020 to June 2021. All the Covid positive pregnant women admitted in the labour room emergency in the dept. of Obstetrics & Gynaecology, NMCH, Patna were included in the study.

There was one women referred on 5th post-op day after LSCS done in some other hospital was also included in the study. The study parameters included chief complaint of patients, gestational

age, mode of delivery, abortion, operative intervention, any maternal or perinatal morbidity and mortality, duration of stay in the hospital etc.

Results- In my study 29 pregnant women and one woman on 5th post-op day after LSCS were admitted in LRE during the study period were studied. Thus there were total 30 women (29 pregnant women and one woman on 5th post after LSCS). Two patients were admitted with 6- 8 weeks pregnancy with bleeding per vaginam, on USG there was incomplete abortion for which D& E was done and post D&E period was uneventful.

Twenty seven cases were having gestational age between 32-41 weeks. Out of total 29 cases 26 were delivered by LSCS, one woman had vaginal delivery with alive term male child. Out of these 27 deliveries there was one perinatal death.

All the neonates were sent to Paediatrician after delivery and RTPCR for COVID-19 infection was done. All the neonates were COVID-19-negative on the first day of delivery. There was one maternal death of woman who was referred to our hospital on 5th post LSCS day with burst abdomen, Covid pneumonia and moderate anaemia.

Table 1: Showing gestational age

Gestational age	No of patients	Percentage
6-8 weeks	2	6.89
32-34 weeks	02	6.89
35-36 weeks	11	37.93
37-41 weeks	14	48.27

As shown in the above table percentage of preterm birth was 44.82% which is quite high.

Table 2: Showing Mode of Delivery

Mode of delivery	Number	Percentage
LSCS	26	96.29
Vaginal delivery	01	3.70

As shown in the above table (table-2) 26 cases (96.29%) were delivered by LSCS. This is due to the fact that our hospital was a Covid-dedicated tertiary care hospital, cases that required LSCS or had any complications were referred to our hospital.

Table 3: Showing indications of LSCS

Indication of LSCS	Number	Percentage
Previous LSCS	19	73.07
PROM	03	11.53
Fetal distress	02	7.69
Breech	01	3.84
Postdated with oligohydramnios	01	3.84

The above table shows that previous LSCS was the most common indication of LSCS.

Table 4: Showing maternal & perinatal mortality-

	Number	Percentage
Maternal mortality	01	3.33
Perinatal mortality	01	3.70

As shown in the above table that there was one maternal death and one perinatal death.

Discussion

Majority of the pregnant women admitted in LRE were either asymptomatic (40%) or had mild symptoms (53.34%). Only 2 cases (06.66%) were moderate to severe in nature. In my study the range of gestational age was 32–41 weeks. They became COVID-19-negative within 5 to 9 days of admission.

In one case there was wound gap for which secondary suturing was done. Majority of the women were referred cases after they were tested Covid-19 positive. Indications of LSCS were previous LSCS- 19 cases(73.07%), PROM-3 cases (11.53), Fetal distress- 2 cases (7.69%), Breech

presentation-1 case(3.84%), Postdated pregnancy with oligohydramnios- 1 case(3.84%). Thus we can see that majority of LSCS (73.07) was done for previous LSCS.

The high incidence of LSCS was due to the fact that women who required LSCS or had any complication were referred to our hospital being a Covid-dedicated tertiary care hospital. All the neonates were sent to Paediatrician after delivery and RTPCR for COVID-19 infection was done. All the neonates were COVID-19-negative on the first day of delivery. [8] Thus we can see that there is no mother-to-fetal transmission of COVID-19 infection in utero in my study.

[6] According to study done by Chen SH, Huang B, Luo DJ, et al. (2020) on "Pregnant women with

new coronavirus infection: a clinical characteristics and placental pathological analysis of three cases”, the clinical characteristics of pregnant women with Covid-19 infection in late pregnancy are similar to those of non-pregnant patients, and no severe adverse pregnancy outcome was found in the 3 cases of their observation. Pathological study suggested that there were no morphological changes related to infection in the three placentas. No evidence for intrauterine vertical transmission of Covid-19 was found in late pregnancy.

There was one maternal mortality on the 7th post-op day after LSCS due to burst abdomen with Covid pneumonia associated with moderate anemia (Hb-7.5 gm%). The patient was referred on 5th day of LSCS with burst abdomen and Covid pneumonia. There was one intrauterine death with previous two LSCS for which LSCS was done. The intra uterine death was most probably due to complication of Covid infection, as patient had high fever, diarrhea followed by loss of fetal movement (in usg-IUD was “confirmed). Out of total 27 delivery 26(96.29%) were live birth. Eight neonates (30.76%) had birth weight below 2.5 kg, rest eighteen neonates (69.23%) had birth weight between 2.5 to 3.7 kg. Four neonates (15.38%) were admitted to NICU for prematurity, meconium aspiration, PROM etc. As the sample size is small so further research is required.

Conclusion

In my study it was seen that pregnancy had no any significant deleterious effect on the course of Covid-19 infection in majority of cases. The time of recovery from Covid-19 infection in pregnant women was almost comparable to the non-pregnant women in the same age group. No Neonate was Covid positive soon after delivery indicates that Covid infection has no trans placental transfer. In two cases there was spontaneous abortion in early pregnancy which may be due to high fever and systemic inflammatory mediators. As the sample size is small, so more research is needed in this direction.

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