

Post Operative Complications and Outcomes in Patients Undergoing Emergency LSCS with Covid Positive Status: An Observational Study

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Abstract

Background: Managing obstetric emergencies in COVID-19 pandemic is a real challenge as these patients need timely intervention to save the life of mother and baby.

Aim: To study postpartum outcomes and complications in pregnant women undergoing emergency LSCS with COVID-19 positive status, an observational study.

Objective: Enlisting post-partum complications in COVID-19 positive women undergoing emergency LSCS. To study the requirement of drugs in postpartum period to deal with complications.

Settings and Designs: This was an observational study carried out in a tertiary health care center.

Material and methods: This study was carried out in a tertiary care health hospital which was designated as COVID-19 facility, from a period of June 2020 to January 2021. Total of 83 patients were taken into study. Patients undergoing emergency LSCS irrespective of gestational age were taken. Post-operative complications and drugs required in postpartum period were studied.

Results: In our study, CRP median value of 41.70 among the patients having complications

was statistically significantly increased compared to CRP median value of 13.00 in patients having no complications (p-value 0.002). There were no significant differences in all other inflammatory markers.

Conclusion: There were no significant morbidities related to COVID-19 positive status in patients undergoing emergency LSCS, in our study.

Keywords: Covid 19; Pregnancy; Caesarian section; Postpartum; Complication.

Introduction

Severe acute respiratory coronavirus (sars-cov-2) has emerged as a new entity since December 2019. The first outbreak was in Wuhan, China¹. Ten months later more than 43 million cases had been identified across the globe.² It has created a calamitous global health crisis.

Symptoms of COVID-19 are variable, but often include fever, cough, headache, fatigue, breathing difficulties and loss of smell and taste. Some people experience a range of effects for months after recovery and damage to organs has been observed. Considering the transmission, seems to be mainly through respiratory droplets produced

by an infected person. However, there is possibility of aerosol transmission in a relatively close environment with high degree of contamination for a protracted period of time.²

Pregnant women are special group of concern during this outbreak. Physiological changes in the immunologic, cardiovascular and respiratory systems may increase the severity of the disease, especially during the third trimester.³⁻⁵

The available evidence about the effect of other coronaviruses causing SARS in pregnancy is scarce, but it suggests that coronavirus infection during pregnancy is associated with adverse perinatal outcomes, higher rate of perinatal mortality, cesarean section, and preterm birth.^{6,7} The corona virus epidemic increases the risk of perinatal anxiety and depression.^{8,9}

This observational study aims to observe the various outcomes and complications among the pregnant women undergoing emergency LSCS with COVID-19 positive status.

Material and Method

This study was carried out in a tertiary care health hospital which was designated as COVID-19 facility, from a period of June 2020 to January 2021.

Pune started facing COVID-19 pandemic from April 2020, and first case of pregnancy with COVID-19 positive status in our hospital, was reported in June 2020. Total of 83 patients were taken into study.

Pregnant women with COVID positive status were taken into consideration undergoing emergency LSCS, irrespective of their gestational age. Patient undergoing elective LSCS and vaginal delivery were excluded. Written informed consents were taken from the participant.

Complications in terms of fever, wound gape and oxygen requirement were studied for a period of 10 day after caesarean. Also, requirement of drugs (Inj. Remdesivir, Inj. LMWH and Inj. Dexamethasone) based on complications were studied. Data were presented as mean, median, number and percentage.

Statistical Analysis

All statistical analysis was done by SPSS software with version 25. Quantitative variables results were shown by descriptive statistics. Qualitative variable results were shown by frequency and percentages. Independent t test was used for continuous variable which follows normal distribution. Mann Whitney-

U-test was used for continuous variable with non-normal distribution. Throughout the result, 5% level of significance was used. All results were shown with 95% of confidence. P-value <0.05 was considered as significant.

Discussion

We reported 83 patients with COVID-19 undergoing an emergency LSCS. All these patients were either COVID-19 RT-PCR or COVID antigen positive. In all the patients spinal anaesthesia was used. As main mode of transmission of virus is aerosol, general anaesthesia was avoided.^{10,11}

Every attempt was tried to avoid general anaesthesia. Most of patient in our study, were asymptomatic or had mild symptoms in contrast to the proportion of maternal critical illness due to SARS-cov-2 infection in wuhan.¹²

This could be explained by the fact that these patients were screened late in pregnancy and there is a tendency to limit outdoor activities during period of pregnancy. Studies have also shown that SARS-cov-2 virus has not been detected in amniotic fluid, Cord blood or breast milk of pregnant women infected with covid-19 infection.¹³

Patient required oxygen support via nasal mask or bag and mask ventilation. None of the patients in our study required ventilation. We did not find any hemodynamic instability as a significant problem in covid-19 positive parturient. Personal protective equipments comprising N95, impervious body suits with hoods, goggles, shoe cover, double layered gloves were donned by entire team which included obstetricians, anaesthesiologists, neonatologist, nursing staff and assistants. Patients were shifted to operation theatre wearing N 95 mask.

Results

Eighty three patients were included in our study. All were detected COVID-19 positive either by COVID RT-PCR or Rapid antigen test. All pregnant women with COVID-19 positive status undergoing emergency LSCS irrespective of their gestational age were taken into consideration. Majority of women were asymptomatic. Mean age patients was 27.52±4.67 years. Complications were studied in terms of fever, wound gape and oxygen requirement. Total 28 (33.70%) patients had complications. Out of those 28 patients, 26 (92.9%) patients had fever, 11 (39.3%) patient required oxygen and none of the patients had wound gape. Out of 83 patients studied, Inj. Remdesivir was required for only 5 patients (6%), Inj. LMWH was required for only to

20 patients (24.1%) while Inj. Dexa was required for 27 (37.5%) patients (Table1])

Table 1: COVID-19 Complications and Drug Frequency Distribution.

		Frequency (n=83)	Percentage (%)
Age in years		27.52 ± 4.67	
Complications	Yes	28	33.7
	No	55	66.3
Type of Complications*	Fever	26	92.9
	O2 requirement	11	39.3
	Wound Gape	0	0.0
Inj. Remdesivir	Yes	5	6.0
	No	78	94.0
Inj. LMWH	Yes	20	24.1
	No	63	75.9
Inj. Dexa	Yes	27	32.5
	No	56	67.5

However, Inj. Remdesivir was required only for 5 patients (17.86%) having complications and 0 patients having no complications. Inj. LMWH was required only for 11 (39.29%) patients with no complications and 9 (16.36 %) patients with no complications. Similarly, Inj. DEXA was required only for 18 (64.29%) patients having complications and 9 (16.36%) patients with no complications (Table 2)

Table 2: Drug Comparison.

		Complications n=28, (%)	No Complications (n=55)
Inj. Remdesivir	Yes	5 (17.86)	0 (0.00)
	No	23 (82.14)	55 (100.00)
Inj. LMWH	Yes	11 (39.29)	9 (16.36)
	No	17 (60.71)	46 (83.64)
Inj. Dexa	Yes	18 (64.29)	9 (16.36)
	No	10 (35.71)	46 (83.64)

Among the various inflammatory markers studied, only CRP showed statistically significant increased median value (41.70) in the patients having complications as compared to CRP median value (13.00) in patients with no complications (Table 3). There is no significant difference in all other inflammatory markers (Table 4).

Table 3: Mann-Whitney U test.

Complications		N	Median	P-value
CRP	Yes	28	41.70	0.002*
	No	55	13.00	
D-dimer	Yes	28	692.00	0.091
	No	55	524.00	
Procalcitonin	Yes	28	0.07	0.935
	No	55	0.07	
Ferritin	Yes	28	89.00	0.675
	No	55	104.00	

Table 4: Independent-t-test.

Complications		N	Mean	SD	t-value	p-value
S.LDH	Yes	28	476.53	231.76	0.86	0.39
	No	55	441.23	142.16		

Conclusion

There were no significant morbidities related to COVID-19 positive status in patients undergoing emergency LSCS, in our study. Inj. Remdesivir was required only for patients with complications like those requiring oxygen support. Inj. Dexa and Inj. LMWH were used as a treatment modality for the patient in postpartum period. Hence, COVID virus does not exhibit any serious impact on pregnant mothers and the post covid prognosis is satisfactory.

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