



CORONA VIRUS DISEASE 2019 AND FIRST-TRIMESTER MISCARRIAGE : A RETROSPECTIVE STUDY

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ABSTRACT

AIMS AND OBJECTIVES: The evidence related to the impact of coronavirus disease 2019 on pregnancy is limited to the second and third trimester of pregnancy, whereas data on the first trimester are scant. Many viral infections can be harmful to the fetus during the first trimester of pregnancy. In this study, we evaluated COVID-19 infection as a risk factor for early pregnancy loss in the first trimester of pregnancy. **MATERIAL AND METHOD :** Between nov 2020 and june 2021, we conducted a retrospective study at Gupta nursing home Gwalior among pregnant women in their first trimester, paired for last menstruation. The cumulative incidence of coronavirus disease 2019 was compared between women with miscarriage (n-50) and those with ongoing pregnancy (control group n-50). Current or past infection was determined by history given by patients **RESULT & CONCLUSION:** COVID-19 infection during the first trimester of pregnancy does not seem to predispose to early pregnancy loss; its cumulative incidence did not differ between women with miscarriage and women with ongoing pregnancy.

KEYWORDS : covid-19, miscarriage, pregnancy with corona

INTRODUCTION:

The World Health Organization named the new severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) disease corona virus disease 2019 (COVID-19) and declared it a pandemic.

COVID-19 was first reported in Wuhan (China) in December 2019 followed by outbreaks across the world.[1] The first cases of COVID-19 in Italy were confirmed in January 2020, with a rapid rise in the number of cases in northern Italy starting in late February. Despite the rapidly growing number of cases worldwide, data on COVID-19 during pregnancy remain limited, being derived mainly from small sample studies.[2-7]

A systematic review of published reports on coronaviruses (COVID19, SARS, MERS) reported higher rates of preterm birth, preeclampsia, cesarean delivery, and perinatal death.[8]

The lack of data on spontaneous abortion because of COVID-19 during the first trimester precludes extrapolation of conclusive evidence for the effects of infection during early pregnancy. The paucity of reliable data has aroused concern in patients, and the disinformation reported by the media may lead pregnant women to embrace dramatic choices such as voluntary abortion.[9]

MATERIAL AND METHODS:

Women who had been referred to our hospital for pregnancy loss care during the first 13 weeks of pregnancy between November 2020 and June 2021,, we take 100 patients and divided in two groups .

Group C (N-50): patients who gave history of covid-19 infection in last 6 month(confirm by rapid antigen or rtqcr test report)
Group P (N-50) : patients who not give any history of covid-19 infection.

All women who had access to our emergency room or to the pregnancy loss management service were contacted after being traced through our hospital's database.

RESULT AND ANALYSIS :

Table 1: Showing Demographic Profile Of Patients In Two Groups

S. no.	Parameters	Group C		Group P		p value
		Mean	±SD	Mean	±SD	

1.	Age (yrs)	26.4	10.33	23.6	8.27	0.44#
2.	Weight (kgs)	68.5	4.83	67.0	5.95	0.45#

Table 1 showing demographic profile of patients in two groups according to age and weight .

Statistical analysis of Mean ±SD of Age and Weight of the groups were comparable in both groups and statistically insignificant (p>0.05).

Table 2: Duration Of Pregnancy

Parameters	Group C		Group P		p value
	Mean	±SD	Mean	±SD	
Duration of pregnancy (in wks)	11.8	3.34	12.4	2.35	<.00\$

Table 2 Showing mean ±SD of duration of pregnancy. Statistical analysis of Mean ±SD of duration of pregnancy of the groups were comparable in both groups and statistically insignificant (p>0.05).

Table 3: Showing Comparison Of Medical History Among Two Groups.

	Group C	Group P	p value
Previous Pregnancy	28	32	>0.05
Previous abortion	12	10	>0.05
ART therapy	4	6	>0.05
Smoking history	6	3	>0.05
Thyroid disease	2	4	>0.05
Autoimmune diseases	0	2	>0.05
Thrombophilia	0	2	>0.05
Uncontrolled DM	3	1	>0.05
Uterine abnormalities	3	4	>0.05

When we compare history of Previous Pregnancy, Previous abortion, ART therapy, Smoking history, Thyroid disease, Autoimmune diseases, Thrombophilia, Uncontrolled DM and Uterine abnormalities we find that both group are comparable and statically insignificant.

Table-4: Showing Incidence Of Miscarriage Among Two Groups

Parameter	Group C	Group P
Incidence of miscarriage	3	4

When we compare the incidence of miscarriage in group-

and group-p , we find that incidence is almost equal in both groups.

DISCUSSION

Despite the large and rapidly growing number of cases worldwide, there are limited data on COVID-19 in pregnancy, mainly coming from case series and small sample studies related to the second and third trimesters of pregnancy. Concern is mounting about the impact of COVID-19 on pregnancy, possible vertical transmission,[10-13] and unfavorable obstetrical outcomes in particular.

Currently, data on the impact of corona viruses on the first trimester of pregnancy are limited. Four of the 7 patients who presented with COVID-19 infection during their first trimester had a spontaneous abortion, likely the result of the hypoxia caused by COVID-19 related acute respiratory distress.[14]

In our study we find that demographic data of mean age (group c -26.4 yr and group-p 23.6 yr) and mean weight (group c -68.5 kg and group-p 67 kg) is comparable in both group and statically insignificant.

In our study we find that mean duration of pregnancy(group c -11.8 wk and group-p 12.4 wk) is comparable in both group and statically insignificant.

In our study we compare history of Previous Pregnancy, Previous abortion, ART therapy, Smoking history, Thyroid disease, Autoimmune diseases, Thrombophilia, Uncontrolled DM and Uterine abnormalities we find that both group are comparable and statically insignificant.

In our study we compare the incidence of miscarriage in group-c and group-p , we find that incidence is almost equal in both groups. group c -3 and group p-4)

Our study findings may reduce concerns in patients during the first trimester of pregnancy. In this cohort of women who experienced a miscarriage during the first trimester, Our findings may reassure women who are planning a pregnancy in epidemic areas and may represent a guide for obstetricians during preconception counseling.

With this study, we evaluated the impact of COVID-19 on early pregnancy loss in a cohort of pregnant women with COVID-19 infection confirmed by rapid antigen or rtPCR testing. The results show that the risk of first trimester spontaneous abortion is not affected by COVID-19 infection after being adjusted for age. No severe cases or hospital admission because of COVID-19 related symptoms were recorded, both in women who had ongoing pregnancies and in those with early pregnancy loss.

COVID-19 infection during the first trimester of pregnancy does not seem to predispose to early pregnancy loss; COVID-19 appears to have a favorable maternal course at the beginning of pregnancy, consistent with what has been observed during the third trimester when the clinical characteristics of COVID-19 positive pregnant women were similar to those found in women from the general population.[15] More importantly, no significant difference in the early pregnancy loss rate was observed.

CONCLUSION

COVID-19 infection during the first trimester of pregnancy does not seem to predispose to early pregnancy loss; its cumulative incidence did not differ between women with miscarriage and women with ongoing pregnancy.

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