PREGNANCY OUTCOME IN COVID-19 POSITIVE WOMEN IN A COVID DEDICATED HOSPITAL.

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Abstract:

Objective: To see the maternal and fetal outcome in covid positive hospitalized pregnant women.

Method: It is an observational study done in Mugda Medical College Hospital. Duration was from 23 April, 2020 to 16 June, 2020 .

Result : *32 hospitalisedcovid positive pregnant women were studied. 84.4% women were above 25 years and 78% were multigravid. 19% had fever on admission and 59% had H/O fever. 22% had respiratory distress ranging from mild to severe on admission. During the hospital stay 28.2% needed ICU. 57.9% women delivered before completion of 37 weeks, among them. 26.3% were before 34 weeks. 79% women had delivery by Cesarean section and 10.5% had hysterotomy. In this study maternal mortality was 21% and 31.6% was perinatal mortality. There was no vertical transmission to fetus.*

Conclusion: *During thisstudy , it is found that pregnancy outcome was not good in covid positive pregnant women . For the infected mothers early medical supervision and availability of ICU in critical condition is needed for better pregnancy outcome.*

Key words: *Covid19, maternal outcome, perinatal outcome.*

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Introduction:

Coronavirus disease 2019 is an emerging disease with a rapid increase in cases and deaths since its first identification in Wuhan, China, in December 2019. This pandemic in Bangladesh is part of the worldwide pandemic caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). In our country at present affection and numberof deaths are getting higher every day. Along with rest of the population huge number of pregnant women are also affected.

In Bangladesh 1,19,198 persons are detected corona positive from 8 March , 2020 till 23 June, 2020 and died 1545 persons. [1]

The term coronavirus derives from the Latin word corona, which means crown or halo.This designation arises from the appearance of coronavirus virions viewed by electron microscopy, in which the virus particles display a crown-like fringe typically referred to as spikes.

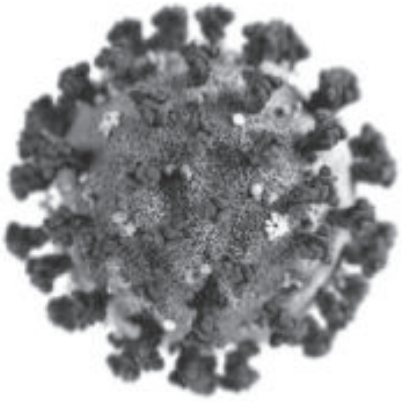

Illustration of the causative virion for COVID-19

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Corona viruses are single-stranded RNA, nonsegmented, enveloped viruses, which cause illness ranging in severity from the common cold to severe and fatal illness.

Mean incubation period of the virus is 5.2 days, ranging from 2–14 days.Bats, animals sold at the seafood market in Wuhan might represent an intermediate host. [2]

Coronaviruses cause illness ranging in severity from the common cold to severe respiratory illness and death.Frequentmanifestations include fever, cough, myalgia, headache and diarrhea. Abnormal testing includes abnormalities on chest radiographic imaging, lymphopenia, leukopenia, and thrombocytopenia. Initial reports suggest that acute respiratory distress syndrome develops in 17–29% of hospitalized patients and among hospitalized patients, 4–15% have died.[3]Overall case fatality rate appears to be <"1%. [4]

In the midst of this rapidly evolving outbreak that have significant effects on our public health and medical infrastructure, the unique needs of pregnant women should be included in preparedness and response plans. Though in this outbreak, more men have been affected than women,[5] it is critical that pregnant women should not be denied potentially life-saving interventions in the context of a serious infectious disease threat. As with all decisions regarding treatment during pregnancy, careful weighing is necessary of the benefits of interventions for the mother and fetus and associated potential risks.

Objective of the study:

1. To find out the effect of corona virus on pregnant women.
2. And to see the perinatal outcome in covid positive pregnant women.

Inclusion criteria:

1. All pregnant women with corona positive report.
2. Hospitalized pregnant women.

Exclusion criteria:

1. Pregnant women without corona infection.
2. Suspected corona affected pregnant women without corona positive report.

Methodology:

The study is an observational study done from 23 April,2020 to 16June, 2020 in Covid dedicated Mugda Medical College Hospital, Mugda, Dhaka.

Sampling method was consecutive all covid positive obstetric patients getting admission in the hospital. Total number of patients were 32. Covid and obstetric management was given simultaneously to the patients. Maternal and fetal outcome ware noted.

Result:

Total number of admitted obstetric patients : 32

Age of the patients:

Age	n = 32	
21-25yrs	5	15.6%
26-30 yrs	11	34.4%
31- 35yrs	11	34.4%
36-38yrs	5	15.6%

Gravida of patients:

Gravida		
Primi	07	22%
Multi	25	78%
Antenatal	31	97%
Postnatal	01	3%

Period of gestation on admission :

Period of gestation on admission		
1st trimester	02	6.5%
2nd trimester	06	19.4%
3rd trimester	23	74.1%

Patients' condition on admission:

Fever around100ºF	6	19%
H/O fever	19	59%
Without H/O fever	07	22%
Mild respiratory distress	02	6.3%
Moderate respiratory Distress	02	6.3%%
Severe respiratory distress	03	9.4%
Without respiratory distress	25	78%
Only cough	8	25%

Need of ICU

Need of ICU	n = 32	
Predelivery	03	9.4%
Postdelivery	6	18.8%
ICU with ventilation	3	9.4%
ICU without ventilation	6	18.8%

Period of gestation at delivery including the postnatal one:

Period of gestation at delivery n = 19

<28 wks	2	10.5%
28-34 wks	3	15.8%
34-37 wks	6	31.6%
>37wks	8	42.1%

Mode of delivery:

Mode of delivery	n = 19	
VD	2	10.5%
CS	15	79%
Hysterotomy	2	10.5%

Indication of CS (excluding hysterotomy), n = 15

Primi breech	1	6.7%
Primi PROM with CPD	1	6.7%
H/O previous CS	13	86.6%

Postnatal Period:

Postnatal period	n =19	
Eventful	6	31.6%
Uneventful	13	68.4%

Maternal Mortality:

Maternal Mortality	n =19	
CS	3	
VD	1	
Total	4	21%

Wound minfection : 2 (n= 17 , 15 CS and 2 hysterotomy)

Wound infection rate is 11.8 %

Perinatal Mortality :

Perinatal outcome	n = 19	
IUD	3	15.8%
Neonatal mortality	3	15.8%
Total	6	31.6%

Treatment Protocol: Important points:

O_2 inhalation as required.

All patients got broad spectrum antibiotic.

All patients got InjHeparin , except first 3 patients. Among the 4 maternal death 2 did not receive inj Heparin and 2 received the anticoaggulant.

2 patients got convalescent plasma therapy, who had good recovery.

All babies born to covid positive mother were tested covid negative.

Patients were discharged after corona report getting negative .

Discussion:

Wellbeing of Covid 19 affected pregnant women has become a new challenge for the hospitals.It is a new infection and some time has passed for formulation of treatment. As long as vaccination against Covid19 is invented, the challenge will persist. Maternal mortality rate in our country is 176 deaths/100,000 live births (2015 est.) [6] . But now in pandemic disease situation, in our studythe maternal mortality rate is high, that is 21% among the delivered women. Again,the Perinatal Mortality Rate was 44 per 1000 pregnancies in 2014 in Bangladesh[7] , but in the covid positive pregnant women the fetal outcome is not good. In our study the perinatal mortality is 31.6%. And Neonatal Mortality Rate in Bangladesh in 2017, was 18.4 deaths per 1,000 live births[8] , whereas in our study it is high, 15.8%.

In a study done in a NewYork hospital, it is seen among 33 Corona affected pregnant women only 4 women showed symptoms(12%), but others were asymptomatic.[9] In our study also on admission only 19% had fever, but 59% had H/O fever and 78% had no respiratory distress, other 22% had respiratory distress.

It may be that pregnant women are at no greater risk than the general population when it comes to catching the virus. But a good proportion have become very sick and died.

In a study published preprint in the non-peer-reviewed journal medRxiv in April 2020, which is a systemic review covering 23 studies from various countries mostly from China, finds that most of the pregnancies (almost 9/10) ended in delivery by Caesarean section and Preterm delivery occurred in 23%.Many women had other medical conditions as well, such as:Diabetes and hypertensive disorders of pregnancy (11% and 9% respectively).[10] In our study , the majority of hospitalized women were aged more than 25 yrs, not very young and majority were multigravid.

In another systemic review of Nineteen studiesof China, Canada, USA having 41 hospitalized covid positive pregnant women show that the most common adverse pregnancy outcome was preterm birth <37 weeks, occurring in 41.1% of cases, while the pooled proportion of perinatal death was 7.0%. None of the 41 newborns assessed showed clinical signs of vertical transmission.[11]

In another study, researchers at Montefiore Health System and Albert Einstein College of Medicine in collaboration with four major New York City academic health centers, published the largest review to date of birth outcomes among women affected with covid 19, the novel coronavirus.[12] Published in 'Obstetrics & Gynecology' on June 16, 2020, this unprecedented data reviewed 241 births to women with laboratory-confirmed SARS-CoV-2 who delivered between March 13 and April 12, 2020. Among the most compelling findings, when admitted to the hospital 61.4% of the 241 women included in this study were asymptomatic. Almost one-third of the asymptomatic women became symptomatic during their hospitalization. Higher rates of preterm birth and cesarean birth were found among pregnant women who delivered with severe and critical COVID-19. Cesarean birth was the mode of delivery for 52.4% of women with severe and 91.7% with critical COVID-19. The singleton preterm birth rate among severe patients was 18.0% and 58.3% among critical COVID-19 patients; which is higher than the national average (10% in 2018) and reflects the fact that some women needed to be delivered based on how well the mother was able to breathe. Nearly all newborns tested negative for SARS-CoV-2 immediately after birth (97.5%). The above findings were similar to us. But in theirstudy there were no maternal deaths, which is contrary to us.

Regarding the maternal death, one died suddenly after 48 hrs of CS due to ? thromboembolism and another after 2 hrs of CS due to severe respiratory distress. In the third mortality, the patient was admitted already in a critical condition , which she could not recover and died 2 hrs after vaginal delivery. Regarding the fourth death, the patient had respiratory distress from the admission and distress increased more after delivery and died 48 hrs after CS. The second and fourth patient needed ICU which they could not get.

Conclusion :

The majority of pregnant women hospitalised with Covid19 were in third trimester, indicating the need for continued social distancing in later pregnancy. The maternal outcome was not good. And prematurity leading to high perinatal mortality is a great concern. So, for the infected mothers early medical supervision and availability of ICU in critical condition are needed for better pregnancy outcome.

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