COVID-19 in pregnant women

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ABSTRACT

Corona virus disease (COVID-19) is an emerging disease with rapid increases in cases. COVID-19 is a single-stranded RNA virus which can produce diseases in Humans and Animals also. As COVID-19 is a developing health issue in the World, Experts also remain unsure whether pregnant women are having a higher risk of COVID-19 or not. The emergency of acute health care, it is particularly deadly in large populations and communities in which health care providers are insufficiently prepared to manage the COVID-19 infection. And cases have increased in other countries around the world day by day. It has increased the possibility of vertical transmission of the virus from the mother to the fetus—the WHO labelled the total confirmed cases as of 12th April as 1,836,041. Total death 113,233 and pregnant women having positive corona cases is 38, as of 1st April 2020. Partial suppression of the immune system in pregnancy can increase the chances of a viral infection such as flu (influenza) in pregnant women. World Health Organization (WHO) suggests that there is no specific evidence exists that pregnant women are more prone to severe COVID-19 symptoms than other general people. Physiologic and immunologic changes in pregnant women have systemic effects which in an increased risk of respiratory infections, various other changes like cardiovascular system, Respiratory system, increased heart rate and decreased lung capacity. Pregnant women become infected with two pathogenic corona virus infections, one as a severe acute respiratory syndrome (SARS) and other one is Middle East respiratory syndrome (MERS).

INTRODUCTION

The COVID-19 pandemic started in China and subsequently spread all over the world and created major health issues. According to sources, this virus infected a person in Wuhan city, China (Qiao, 2020).

‘Respiratory infections can be transmitted through droplets of different sizes: when the droplet particles are >5-10 μm in diameter they are referred to as respiratory droplets, and when they are <5μm in diameter, they are referred to as droplet nuclei.’ (World Health Organization, 2020). The immune system is suppressed in pregnancy which
makes pregnant women more prone to viral infections, and the morbidity is higher with seasonal influenza (Berkowitz and LaSala, 1990). With the Coronavirus, concerns have been raised about its intrauterine transmission from mother to fetus in pregnant women (Chan et al., 2020).

The international committee on Taxonomy of viruses has proposed SARS-CoV-2 as the name of the virus that causes COVID-19 (Chan et al., 2020). The most common symptoms of COVID-19 consist of fever, shortness of breath, cough and myalgia, sputum and headache (Zhu et al., 2020b). Pneumonia caused by COVID-19 is a highly contagious and infection disease declared a health care emergency by the World Health Organization (Zhu et al., 2020a). Viral pneumonia is the most important cause of morbidity and mortality in pregnant women (Berkowitz and LaSala, 1990). Maternal pneumonia is associated with several adverse obstetrical outcomes, including Preterm labour, premature rupture of membranes and intrauterine growth restriction and neonatal death (Swartz and Graham, 2020). However, there is no evidence suggesting that the transplacental transmission based on minimal data, as the neonatal throat swab and breast milk samples (Liang and Acharya, 2020). Virus shedding occurs through vaginally is also not known.

COVID-19 positive mothers should be delivered only through caesarean section not confirmed yet. Whenever possible, vaginal delivery to avoid maternal exhaustion should be favoured to prevent unnecessary surgical complication in an already sick patient. In septic shock, any morbidity or fetal distress should prompt an emergency caesarean delivery. Although the data is still limited other Coronavirus infection have not been known to pass to the child from vaginal birth. New-born’s of mother positive for SARS-CoV-2 should be isolated for at least 14 days, during that time direct breastfeeding is not advised.

Whether COVID-19 the risk of miscarriage and stillbirth is yet unknown (Wang et al., 2020). However, the effect of COVID-19 on the course and outcome of pregnancy in the first and second trimesters is still unknown (Liang and Acharya, 2020). COVID-19 still appears to be spreading more infections in pregnant women; therefore, pregnant women and their families must receive as accurate information possible and care should be taken.

PREVENTION

The incubation period of COVID-19 is 2 days to 14 days, but one infected person can transmit the infection through close contact, respiratory droplets or sneezing. Partial immune suppression makes pregnant women more prone to COVID-19 infection during the epidemic condition. Therefore, it’s best for pregnant women to focus on self-care and to maintain social distance with the people. Avoid non-essential travel. Suspected mother or confirmed case of COVID-19 infection should be isolated for at least 14 days after the birth. Wash hands frequently. Maintain a healthy diet. Avoid close contact with a newborn who has suffered from a respiratory infection. Avoid any close contact with animals. Avoid consuming raw or undercooked meat or food items. At the time of coughing or sneezing covering mouth and nose with a tissue or with the flexed elbow to prevent virus spread.

DIAGNOSIS

Plane CT chest is a vital investigation to diagnose viral pneumonia and diagnosis of COVID-19 infection (Chan et al., 2020). White blood cells count (WBC) count could be decreased. C-reactive protein is also helpful to diagnose it may increase. Using real-time polymerase chain reaction (RT-PCR) is considered the standard reference to the diagnosis of COVID-19 (Chan et al., 2020). Blood cultures and sensitivity test should be helpful.

MANAGEMENT

There is no vaccine to prevent covid-19. Pregnant women who are under a suspicious case of COVID-19 should be isolated up to 14 days, and proper investigation should be done (Wang et al., 2020). Isolated ward should be provided. Mechanical ventilation should be used in respiratory failure cases. All medical staff should use personal protective equipment (PPE) kit for personal protection. Fluid and electrolyte balance should be maintained. ‘WHO advises precaution and careful risk-benefit analysis, before using investigational therapeutic agents in pregnant women outside clinical trials. Remdesivir, a nucleotide analogue, and Chloroquine, an antimalarial drug, are promising drugs against COVID-19 as they are known to inhibit SARS-COV-2 virus in vitro’ (Wang et al., 2020). MATERNAL vital signs should be regularly checked.

CARE OF NEWBORN

According to the case of pregnant women, newborn and to be newborn with COVID which suggest that transmission of the virus through transplacental route is least possible in late pregnancy stage. According to some study stated that virus is not
found in amniotic fluid, placenta or breast milk of the mother (Liang and Acharya, 2020). It was also absent in the throat secretion of the neonates. The infection is possible in the neonates only after close contact.

‘Till date, 2 cases of neonates positive with COVID-19 have been confirmed the first case at 36 hours and second case 17 days after birth’ (Liang and Acharya, 2020). Both the cases were found to be infected postnatal (Wang et al., 2020).

CONCLUSION

Intrauterine transmission is one of the most severe complications of viral diseases occurring during the stage of pregnancy. It can occur with maternal infection by congenitally transmitted such as TORCH infection, Ebola virus or Zika virus. Maternal-fetal transmission of viral diseases is through the haematogenous route in which the virus circulating in the maternal bloodstream enters the placenta, reaches the chorionic villous and fetal blood vessels, and is transmitted to the fetus. Currently, based data suggest that there was no evidence for intrauterine transmission of COVD-19 from infected pregnant women to their foetuses. But, a mother who is infected with COVID-19 is at high risk for other severe infections. But an infected mother can transmit the COVID-19 via respiratory droplets at the time of breastfeeding. Thus, suspected mother or known mother should take precautions during breastfeeding. In limited studies, COVID-19 has not been detected in breast milk; however, we do not know sure whether a mother with COVID-19 can be spread the virus through breast milk. COVID-19 increases risk of stillbirth, miscarriage, preterm delivery and fetal distress is still unknown.

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Conflict of Interest

Nil.

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