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Abstract- Here we present a COVID-19 review during pregnancy, combining various factors necessary for understanding pathophysiology and susceptibility, diagnostic problems with time-domain analysis of reverse transcriptional chain reaction (RT-PCR), therapeutic inconsistencies, intrauterine response, and maternal-fetal, complications. We discuss the latest options for antiviral therapy and vaccine development, including the new use of chloroquine in the body of COVID-19. Fetal supervision, given the predisposition to growth restriction and special considerations in childbirth, is being addressed. In addition, we have provided basic services. Our clinical care model is built on the principles of segregation in the workplace, responsible social sharing, localization of cross-infection among healthcare providers, the wise use of personal protective equipment and telemedicine. Our goal is to ensure the appropriate safety of patients and healthcare providers based on it.

Keywords: *pandemic, COVID-19, pregnancy, gynecology, mothercare.*

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Pregnancy during the Sars-Cov-19 Pandemic

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Abstract- **Here we present a COVID-19 review during pregnancy, combining various factors necessary for understanding pathophysiology and susceptibility, diagnostic problems with time-domain analysis of reverse transcriptional chain reaction (RT-PCR), therapeutic inconsistencies, intrauterine response, and maternal-fetal, complications. We discuss the latest options for antiviral therapy and vaccine development, including the new use of chloroquine in the body of COVID-19. Fetal supervision, given the predisposition to growth restriction and special considerations in childbirth, is being addressed. In addition, we have provided basic services. Our clinical care model is built on the principles of segregation in the workplace, responsible social sharing, localization of cross-infection among healthcare providers, the wise use of personal protective equipment and telemedicine. Our goal is to ensure the appropriate safety of patients and healthcare providers based on it.**

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I. Introduction

A pregnant woman and her fetus are at high risk during outbreaks of infectious diseases. To date, the literature has published the outcomes of 55 pregnant women infected with COVID-19, and about 46 newborns, while there is no accurate evidence of vertical transmission of the infection [1, 2].

Physiological changes and mechanical factors during pregnancy increase susceptibility to infections in general, especially with the involvement of the cardio-respiratory system, which contributes to the rapid development of respiratory failure in pregnant women [3, 4, 5]. In addition, the shift during pregnancy to the dominance of the type 2 T-helper system (Th2) protecting the fetus makes the mother vulnerable to viral infections that are more effectively controlled by the type 1 T-helper system (Th1). These unique challenges require an integrated approach to pregnant women exposed to SARS-CoV-2. We present a COVID-19 review during pregnancy, combining various factors necessary to understand pathophysiology and susceptibility, diagnostic difficulties with a real-time reverse transcription polymerase chain reaction test (rOT-PCR), therapeutic inconsistencies, intrauterine transmission, and maternal complications and fetus [6].

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We are considering the latest types of antiviral therapy and vaccine development, including the use of chloroquine in the treatment of COVID-19. The issues of fetal monitoring in the light of the predisposition to intrauterine growth retardation and the special points regarding childbirth and delivery are considered. In addition, we emphasize the safety of obstetric medical personnel who are at the forefront, while continuing to provide the necessary treatment. Our clinical support model is based on the principles of separation in the workplace, responsible social exclusion, containment of cross-infection among medical workers, the wise use of personal protective equipment and telemedicine. Our goal is to share a system that can be adopted by tertiary obstetric institutions that lead pregnant women in a pandemic, but the safety of patients and health workers is paramount.

The most important component in the fight against any threat of infectious diseases is the treatment of vulnerable groups. It is known that pregnant women suffer disproportionately from respiratory diseases, which are associated with increased infectious morbidity and high maternal mortality rates. Although most human coronavirus infections are mild, epidemics of the severe acute respiratory syndrome coronavirus (SARS-CoV) and Middle East respiratory syndrome coronavirus (MERS-CoV) epidemics over the past two decades have been especially serious, where approximately a third of pregnant pregnant women have died from the disease [7, 8, 9, 10]. The current outbreak of pneumonia from coronavirus infection in 2019 (COVID-19) caused by coronavirus type 2 of severe acute respiratory syndrome SARS-CoV-2, was declared a pandemic by the World Health Organization (WHO) on March 11, 2020, the peak of which is predicted to occur in April 2020, without significantly reducing the ability to transmit the virus. Due to the universal and steady spread of the disease across all continents, we are likely to see women with COVID-19 in all trimesters of pregnancy. In this article, we summarize the clinical features of pregnant women with COVID-19 and want to introduce a practical and integrated system that focuses on the obstetric difficulties of managing this disease during pregnancy.

a) Pregnancy Complications

So far, maternal COVID-19 outcomes are more promising than SARS and MERS. The combined data show that mortality was 0%, 18% and 25% for COVID-19, SARS and MERS, respectively - in the last two diseases, the most common causes were progressive

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respiratory failure and severe sepsis 27, 28. This is not surprising, given the predisposition to bacterial superinfection due to direct mucosal damage, dysregulation of immune responses and changes in the microbiome of the respiratory tract after viral pneumonia29. Postnatal maternal deterioration may still occur, requiring continuous monitoring. Complications of COVID-19 for the fetus include miscarriage (2%), intrauterine growth retardation (CDW; 10%) and premature birth (39%) [11, 12, 13]. Fever with an average temperature of 38.1-39 ° C is the predominant symptom with COVID-19; cohort studies in patients with other infections did not show an increased risk of congenital abnormalities from maternal hyperthermia in the first trimester, although attention disorders are more common in these children, which may be associated with hyperthermic damage to the fetal neurons [14].

b) Vertical transmission

There is a theoretical risk of vertical transmission similar to that observed with SARS, since the ACE2 receptor is widely expressed in the placenta with a similar receptor-binding domain structure between SARS-CoV-1 and SARS-CoV-2. More recently, it was reported that two newborns in mothers infected with COVID-19 gave a positive result on SARS-CoV-2 shortly after birth, which raises concerns about the possibility of vertical transmission. However, there were no confirmed cases of vertical transmission among 46 other newborns, born to COVID-19 infected mothers, which have been reported to date, which is confirmed, in turn, by evidence indicating the absence of virus isolation from amniotic fluid, umbilical cord blood, breast milk, and throat swabs taken from this patient sample. It is noteworthy, however, that the vast majority of these women contracted COVID-19 in the third trimester - there is currently no data on perinatal outcomes in cases where the infection was infected in the early stages of pregnancy. Regardless of the risk, it is encouraging that in children, COVID-19 appears as a mild respiratory illness [16, 17, 18].

c) Childbirth, delivery and breastfeeding

Women arriving at the maternity ward are divided according to local rules into low, medium and high risk of COVID-19 identification to determine where the patient will be referred and the precautions required by the nursing staff.

The type of delivery is determined by obstetric and clinical urgency factors. Since there is no convincing evidence of vertical transmission of the virus, vaginal delivery is not contraindicated in patients with COVID-19 [19, 20]. When urgent delivery is required in women in critical condition, Cesarean section is the most appropriate: indications include a sharp deterioration in the state of the woman in labor, difficulties with mechanical ventilation due to the pregnant uterus, and inhibition of the fetus. Delivery, including cesarean section, should be performed using a full set of personal protective equipment and in a room with negative pressure. A widespread method of pain relief during childbirth is the patient's self-adjustable nitrous oxide and oxygen delivery.

However, contamination of gas supply equipment with respiratory viruses may be a hidden source of cross-contamination and medical personnel should be familiar with the general rules for disinfecting equipment, including the treatment of an outlet valve (valve) between patients, and the use of a microbiological filter (with pore size <0.05 μm) between mouthpiece or face mask. In the same way, women with suspected or confirmed COVID-19 and who require oxygen during childbirth should wear a surgical mask over the nasal cannula, since moistening of the kylorol will aerosolize (or spray) the infected droplets within a radius of about 0.4 meters, where the result may there is a risk of nosocomial drip infection [21, 22].

Although the available data do not confirm the risk of vertical transmission, according to the recommendations of the Canadian Society of Obstetricians and Gynecologists for SARS in pregnant women, after childbirth, you should refrain from delayed clamping of the umbilical cord, as well as from contact between the skin of the mother and newborn. Based on current published guidelines, breastfeeding is not contraindicated.

A retrospective analysis of COVID-19 during pregnancy showed that none of the women contained traces of SARS-CoV-2 virus in breast milk. Nevertheless, if the patient decides to breastfeed, then in view of the proximity between the mother and the child, she should wear a protective mask to prevent the transmission of the virus to the child by drip [23, 24, 25]. The presence of antibodies to coronavirus in breast milk depends on the gestational age at which the mother was infected, and whether high doses of corticosteroids have been used that can suppress the mother's immune response.

II. Conclusion

Pregnant women are a uniquely vulnerable group in any outbreak of an infectious disease due to their altered physiology, sensitivity to infections, and impaired mechanical factors and immune function. The need to protect the fetus adds additional difficulties in maintaining their health. Special precautions are needed to reduce the possibility of cross-contamination of medical personnel during medical procedures that require close physical contact and predispose to drip infection, such as vaginal delivery. Most obstetric care is based on consensus recommendations and best practice recommendations, while evidence is emerging on the clinical effectiveness of antiviral therapy and the use of corticosteroids. This review is a comprehensive system to ensure the appropriate level of care for these

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patients and for hospital staff during the COVID-19 pandemic.

References Références Referencias

1. Chen, Huijun, et al. "Clinical characteristics and intrauterine vertical transmission potential of COVID-19 infection in nine pregnant women: A retrospective review of medical records." *The Lancet* 395.10226 (2020): 809-815.
2. Rasmussen, Sonja A., et al. "Coronavirus Disease 2019 (COVID-19) and Pregnancy: What obstetricians need to know." *American journal of obstetrics and gynecology* (2020).
3. Liu D. et al. Pregnancy and perinatal outcomes of women with coronavirus disease (COVID-19) pneumonia: a preliminary analysis //American journal of roentgenology. – 2020. – С. 1-6.
4. Alzamora, Maria Claudia, et al. "Severe COVID-19 during pregnancy and possible vertical transmission." *American Journal of Perinatology* (2020).
5. Dashraath, Pradip, et al. "Coronavirus disease 2019 (COVID-19) pandemic and pregnancy." *American journal of obstetrics and gynecology* (2020).
6. Fan, Cuifang, et al. "Perinatal transmission of COVID-19 associated SARS-CoV-2: should we worry?." *Clinical infectious diseases* (2020).
7. Qiao, Jie. "What are the risks of COVID-19 infection in pregnant women?." *The Lancet* 395.10226 (2020): 760-762.
8. Breslin, Noelle, et al. "COVID-19 in pregnancy: early lessons." *American journal of obstetrics & gynecology MFM* (2020): 100111.
9. Schwartz, David A. "An analysis of 38 pregnant women with COVID-19, their newborn infants, and maternal-fetal transmission of SARS-CoV-2: maternal coronavirus infections and pregnancy outcomes." *Archives of pathology & laboratory medicine* (2020).
10. Yu, Nan, et al. "Clinical features and obstetric and neonatal outcomes of pregnant patients with COVID-19 in Wuhan, China: a retrospective, single-centre, descriptive study." *The Lancet Infectious Diseases* (2020).
11. Li, Na, et al. "Maternal and neonatal outcomes of pregnant women with COVID-19 pneumonia: A case-control study." *Clinical infectious diseases* (2020).
12. Zaigham, Mehreen, and Ola Andersson. "Maternal and perinatal outcomes with COVID-19: A systematic review of 108 pregnancies." *Actaobstetricia et gynecologica Scandinavica* (2020).
13. Chen, Lian, et al. "Clinical characteristics of pregnant women with Covid-19 in Wuhan, China." *New England Journal of Medicine* (2020).
14. Breslin, Noelle, et al. "COVID-19 infection among asymptomatic and symptomatic pregnant women: Two weeks of confirmed presentations to an affiliated pair of New York City hospitals." *American journal of obstetrics & gynecology MFM* (2020): 100118.
15. Liang, Huan, and Ganesh Acharya. "Novel corona virus disease (COVID-19) in pregnancy: What clinical recommendations to follow?." *Actaobstetricia et gynecologica Scandinavica* 99.4 (2020): 439-442.
16. Zhang, L., et al. "Analysis of the pregnancy outcomes in pregnant women with COVID-19 in Hubei Province." *Zhonghuafuchankezazhi* 55 (2020): E009-E009.
17. Liu, Weiyong, et al. "Coronavirus disease 2019 (COVID-19) during pregnancy: a case series." (2020).
18. Sayres, Maureen, et al. "Pregnancy during residency." *New England Journal of Medicine* 314.7 (1986): 418-423.
19. Karimi-Zarchi, Mojgan, et al. "Vertical transmission of coronavirus disease 19 (COVID-19) from infected pregnant mothers to neonates: a review." *Fetal and pediatric pathology* (2020): 1-5.
20. Liu, Huanhuan, et al. "Clinical and CT imaging features of the COVID-19 pneumonia: Focus on pregnant women and children." *Journal of infection* (2020).
21. Di Mascio, Daniele, et al. "Outcome of Coronavirus spectrum infections (SARS, MERS, COVID 1-19) during pregnancy: a systematic review and meta-analysis." *American journal of obstetrics & gynecology MFM* (2020): 100107.
22. Wang, Shaoshuai, et al. "A case report of neonatal COVID-19 infection in China." *Clinical infectious diseases: an official publication of the Infectious Diseases Society of America* (2020).
23. Lechtig, Aaron, et al. "Effect of food supplementation during pregnancy on birth weight." *Pediatrics* 56.4 (1975): 508-520.
24. Zambrano, Lysien I., et al. "A pregnant woman with COVID-19 in Central America." *Travel medicine and infectious disease* (2020).
25. Chen, Yan, et al. "Infants born to mothers with a new coronavirus (COVID-19)." *Frontiers in pediatrics* 8 (2020): 104.

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