



Under the epidemic situation of COVID-19, should special attention to pregnant women be given?

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Keywords

COVID-19, novel coronavirus, policy, pregnancy

The sudden outbreak and spread of COVID-19 in this spring led to a serious challenge to the global public health system. So far, the number of cases in the mainland of China has exceeded 80 000, more than 3000 people died of this disease. The latest data showed that in addition to China's neighboring countries like Japan, South Korea, Thailand and India, severe outbreaks have also occurred in Italy and many other countries around the world. As dated on 12th March, the World Health Organization (WHO) declared that the confirmed cases reported outside China rise to more than 30 000. WHO had announced that "this is not a drill, it's a global pandemic."

The special expert group for control of the epidemic of novel coronavirus pneumonia of the Chinese Preventive Medicine Association has recently reported the epidemiological characteristics of these cases.¹ The results showed that the cases were concentrated in the age group of 30 to 79 years old, which accounted for more than 85% of the total number of confirmed cases, and the number of cases above 60 years old accounted for 30% to 45%. The crude death rate was 2.3% in all cases, 14.8% in the age group over 80 years old, 2.8% in men, and 1.7% in women, unfortunately, and sadly, more than 3000 Chinese medical staff have been infected. While no epidemiological data on the prevalence and proportion of severe cases in pregnant women have been reported till now.

1 | MORE DATA AND EXPERIENCE NEED TO BE COLLECTED IN LATE PREGNANCY

The latest research "Clinical characteristics and intrauterine vertical transmission potential of COVID-19 infection in nine pregnant women" in *the Lancet* reported by Huijun et al² provided very important information about COVID-19 infection in pregnant women. Nasopharyngeal swab samples of neonate and mother were collected, and the amniotic fluid,

cord blood, and breast milk samples for the presence of COVID-19 were also tested, the aim is to provide an assessment of the vertical transmission potential of COVID-19 infection. Although the study analyzed only nine cases pregnant women with confirmed COVID-19 pneumonia, and the presence of replicable viruses in the blood of pregnant women was not confirmed, under the emergent circumstances and the limitation of detection methods, these findings are helpful for preventive and clinical practice in China and the world. The article concluded that there is no evidence for intrauterine infection caused by vertical transmission in women who develop COVID-19 pneumonia in late pregnancy, and the clinical characteristics of pregnant women are basically the same as that of ordinary adults. While this conclusion may not be convincing because of the small number of cases, in addition, gestational age at the time of infection and the mode of delivery may affect the prognosis. All the nine cases of pregnancy included in this study were in the third trimester of pregnancy, gestational ages on admission were over 36 weeks and C-sections were adopted, the results in fact revealed the necessity and effectiveness about taking reasonable measures in the early stage of COVID-19 infection, even in pregnancy. More data and experience is still needed to be collected for confirming the transmission and clinical characteristics of pregnancy.

2 | STANDARD MONITORING AND FOLLOW-UP ARE NEEDED IN EARLY AND MIDDLE PREGNANCY

Although limited studies suggested that COVID-19 infection has no specific effect on late pregnancy, however, the first or second-trimester pregnancy deserves more attention. At different stages of pregnancy, the hormone level and immune status of pregnant women are totally different, which is bound to be closely related to the outcome of infection.

In the early pregnancy, the normal immune balance of the mother is challenged by foreign fetal antigens,³ which may appear unstable state. This state will tend to be stable with the gradual adaptation of the mother. With the growth of the fetus, the mother's immune system is constantly adjusting this steadily, so that it can finally reach a good balance in the late pregnancy. Therefore, the maternal immune system in early pregnancy is actually very sensitive, and the fetus is also in an important stage of organ development. External stimulation, especially virus infections (such as rubella virus, cytomegalovirus, and herpes simplex virus), may cause serious immune system disorder and internal environment imbalance, which probably lead to disease, abortion for mother or abnormal growth and development for fetus.⁴ Previous studies have confirmed that the pandemic of viral infection, like H1N1 2009 influenza virus infection⁵ or SARS 2003,⁶ was related to the high incidence of maternal and infant complications, such as spontaneous abortion, premature delivery, intrauterine growth restriction, tracheal intubation, admission to intensive care unit, renal failure, and disseminated intravascular coagulation. It is time to predict that these consequences may have happened during the outbreak or may not have been discovered long after the outbreak. It is very necessary to investigate COVID-19 infection in the first and second trimester of pregnancy and keep follow-up, these procedures/testing should be started from now and continued till the end of the epidemic for at least 1 year, or even longer. National Health Commission of China launched a new notice on 8 February 2020 about strengthening maternal disease treatment and safe midwifery during the prevention and control of new coronavirus pneumonia.⁷ However, there is no recommendation for routine detection and monitoring of early and midterm pregnancy. Given the widespread and a large number of asymptomatic patients with COVID-19 infection, such follow ups may need to be further strengthened.

3 | PREGNANT MEDICAL STAFF SHOULD BE SUPPORTED BY POLICY

It is worth noting that women in late pregnancy with “a clumsy figure” are usually valued and well protected, while those in early pregnancy are often neglected because of their “normal figure and flexible movement.” Being medical staff (especially in China), pregnancy maybe never the reason for them to be free from work. In the current severe epidemic situation, many “expectant mothers” in my colleagues still stick to work in their positions, some of them even work in fever clinics and isolation wards, they deserve to be taken care of and supported by policies. Routine COVID-19 testing, adequate rest, and better follow-up should be reflected in the policy.

4 | SUMMARY

As time goes by, no doubt we will have a better understanding of 2019-nCoV infections, while routine detection and monitoring of COVID-19 in pregnancy should be considered, standard design, clinical trials, and implementation of future COVID-19 vaccines for pregnant women also recommended.⁸ We hope that human beings can exchange the most experience with the least cost.

CONFLICT OF INTERESTS

The authors declare that there are no conflict of interests.

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How to cite this article: Jiao J. Under the epidemic situation of COVID-19, should special attention to pregnant women be given? *J Med Virol*. 2020;1–2. <https://doi.org/10.1002/jmv.25771>