



Short Communication

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SARS COV-2 and Pregnancy: Autoimmune Implications

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To Cite This Article: Maria José Durango de la Ossa, Maria Carolina Causil Galvis, Andrés Iván Ramirez Montes, John Lorenzo Delgado Lopez, César Augusto Arroyo Pérez, et al., SARS COV-2 and Pregnancy: Autoimmune Implications. Am J Biomed Sci & Res. 2021 - 14(2). AJBSR. MS.ID.001964. DOI: [10.34297/AJBSR.2021.14.001964](https://doi.org/10.34297/AJBSR.2021.14.001964).

Received: 📅 August 30, 2021; Published: 📅 September 13, 2021

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Historically pregnant women have been more severely affected by outbreaks of respiratory infections compared to women of similar non-pregnant age groups. This has been described in the 1918 influenza epidemic, the 1957-1958 Asian influenza epidemic, and more recently, in the 2009 H1N1 and SARS pandemic in 2003 (It should be remembered that SARS-CoV is also a coronavirus, and shares 85% of the genomic sequence with SARS-CoV-2). In all these epidemics, pregnant women showed a high case fatality rate, increased risk of admission to intensive care units, increased risk of mechanical ventilation and other infectious complications [1].

Due to physiological changes in the immune and cardiorespiratory systems, pregnancy is often considered a condition of high susceptibility to viral infections, especially those that affect the respiratory system such as SARS-CoV-2. Diaphragmatic displacement through the gravid uterus and increased gestational weight are responsible for altered lung volumes leading to reduced total lung capacity and an inability to effectively clear pulmonary secretions [1].

The mother's immune status undergoes adaptive changes throughout this period; goes from a pro-inflammatory state in early pregnancy to benefit implantation and placentation to an anti-inflammatory state to benefit fetal growth during the second trimester (which may be protective and may be less severe in this

population) and, finally, a pro-inflammatory state in preparation for labor [2].

The most recent literature indicates that Sars-Cov-2 infection is characterized by generating a significant increase in cytokines at the systemic level (mainly IL-2, IL-7, IL-10, tumor necrosis factor alpha, colony stimulating factor granulocytic), so that pregnant women who are in a pro-inflammatory state could present a more severe response to said infection, a consideration that should be taken into account especially during the I and III trimesters of pregnancy [2].

Although beliefs regarding the susceptibility of pregnant women to Sars-CoV-2 compared to the general population are discordant, few studies including small series of pregnant patients have shown that women had mild disease in 80% of patients, severe illness in 15% of cases and critical illness in 5% of cases; According to a recent meta-analysis of 108 cases, the ICU admission rate in pregnant women was approximately 3% and the incidence of severe disease requiring mechanical ventilation was approximately 2% [3].

In conclusion, pregnant women do not appear to be more susceptible to the consequences of Sars-Cov-2 infection compared to the general population; however, it is known that physiological changes predispose pregnant women to respiratory symptoms

during pregnancy. The foregoing, associated with changes in immunity, may be factors that determine the evolution of the COVID-19 infection. However, it remains to be determined whether these adaptations result in increased susceptibility and / or morbidity or are, in fact, protective against COVID-19 [4].

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