

An overview of the human immune system response in Betacoronavirus infection and comparison it with COVID-19 infection

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Abstract

Sars-CoV-2 infection is the most important health crisis of the recent century. SARS-CoV-2 is a member of coronaviridae family and the genus Betaonavirus. Earlier, the world experienced outbreaks of two other members of Betacoronavirus genus in 2002-2003 and 2011 with the SARS-CoV and MERS viruses respectively, both of which were global threats to the pandemic. The most prominent clinical sign of these viruses is acute respiratory tract syndrome. The clinical signs of SARS-CoV-2 virus have a very wide range from asymptomatic infection to acute respiratory tract syndrome and death. Immune system has critical role in the development of these types of clinical symptoms. SARS-CoV-2 has genome similarity with SARS-CoV and MERS viruses. The range of clinical symptoms are similar in all three viruses, therefore following the immune response against SARS-CoV and MERS viruses can be effective in understanding and predicating immune response to SARS-CoV-2 infection. In this article, we review the immune response against SARS-CoV and MERS viruses and compare it with SARS-CoV-2 immune response. Clinical evidence suggests a similar pathophysiology in SARS-CoV-2 and two other important Betacoronavirus infection. Comparing immune response in SARS-CoV and MERS viruses infection with COVID-19 infection help to better understanding of the host pathogen interaction, host immune response and pathogen immune evasion in SARS-CoV-2 infection.

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Biography

Poupak Mortazkar has completed her Clinical Virology PhD degree from Iran International Medical University and she is in clinical attachment of Oman Ministry of Health. She has Master

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