

Adverse Events Profile of COVID-19 Preventative Strategies

Subjects: Health Care Sciences & Services

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The COVID-19 pandemic has caused millions of deaths and has affected most people across the world, either directly or indirectly. Many preventative and therapeutic strategies have been employed since the beginning of the pandemic. With the development of the mRNA vaccine within a year of the start of the pandemic, we are entering a new era of vaccinology, and the adverse event profile of the COVID-19 vaccine is also becoming more apparent with time. While the benefits of the vaccines and other preventative strategies certainly outweigh the risk of adverse events, prospective clinical trials are urgently needed to determine whether specific populations, including those with a personal or family history of autoimmune disease, are at higher risk of developing certain adverse events, in order to minimize risk further.

Keywords: COVID-19 ; COVID-19 vaccine ; adverse events

The severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) COVID-19 is a novel RNA β -coronavirus that has spread globally among humans since its first appearance in Wuhan, China. SARS-CoV-2 is known to affect multiple organs in the human body, including the lungs, brain, heart, pancreas, and kidneys. With constant genetic mutation in the virus spike protein resulting in the development of new strains, rises in case numbers have been observed since the start of the pandemic in different parts of the world. Most recently, with rising case numbers caused by the South African Beta variant, many countries have again imposed travel restrictions and nationwide lockdowns. Current knowledge on the safety profile of COVID-19 vaccines is from phase 1–3 randomized controlled trials conducted during the early stage of the vaccine development, and from vaccine safety surveillance programs implemented in several countries. More extensive prospective clinical trials are needed for a complete understanding of COVID-19 vaccines' adverse event profile. Growing evidence suggests autoimmunity is an independent risk factor for developing adverse events post-COVID-19 vaccination. More extensive prospective clinical trials are needed for a complete understanding of COVID-19 vaccines' adverse event profile. This review article summarizes the etiopathology of COVID-19 and some of the uncommon adverse events associated with prevention strategies (primary prevention such as vaccines and secondary prevention such as monoclonal antibodies).

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