

Incidence and management of the main adverse effects reported after COVID-19 vaccination

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Abstract

Coronavirus disease 2019 (COVID-19) caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) first appeared in Wuhan, China in 2019. Soon after, it was declared a pandemic by the World Health Organization (WHO). The health crisis imposed by a new virus and its rapid spread worldwide prompted the fast development of vaccines. For the first time in human history, two vaccines based on recombinant genetic material technology were approved for human use. These mRNA vaccines were applied in massive immunization programs around the world, followed by other vaccines based on more traditional approaches. Even though all vaccines were tested in clinical trials prior to their general administration, serious adverse events, usually of very low incidence, were mostly identified after application of millions of doses. Probing a direct correlation (the cause-effect paradigm) between vaccination and the appearance of adverse effects has proven challenging. This review focuses on anaphylaxis, myocarditis, vaccine-induced thrombotic thrombocytopenia, Guillain-Barré syndrome and transverse myelitis reported in the context of COVID-19 vaccination. We highlight their symptoms and laboratory tests required for an adequate diagnosis, and briefly outline the recommended treatments. The aim of the present work is to increase awareness among healthcare personal about these serious adverse events that may arise post-vaccination. Regardless of the ongoing discussion about the safety of COVID-19 vaccination, these adverse effects must be identified promptly and treated effectively to reduce the risk of complications.

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