



There is an urgent need for safer anti-SARS-CoV-2 vaccines

Josef Finsterer^{a,*}

^aNeurology & Neurophysiology Center, Vienna, Austria

DEAR EDITOR,

We eagerly read the article by Liang et al¹ about the efficacy of anti-severe acquired respiratory distress syndrome-coronavirus-2 (SARS-CoV-2) vaccinations in the pediatric population, its side effects, the balance between benefit and risk, and future perspectives. It was concluded that all age groups, including infants, children, adolescents, adults, and elders, are susceptible to SARS-CoV-2 and its variants of concern, including the most recent Omicron strain, that the currently available data from clinical trials and the real world indicate that the mRNA vaccines are generally safe and effective against SARS-CoV-2, and that the benefits of vaccination outweigh its risks. The considerations are appealing but raise concerns which require discussion.

We disagree with the statement that mRNA-based anti-SARS-CoV-2 vaccines are generally safe as mentioned in the abstract.¹ mRNA-based anti-SARS-CoV-2 vaccines frequently cause side effects in pediatric patients and adults but they are in the majority of cases transient and do not require hospitalization. However, there are a number of adverse reactions, which require attention, because they may require hospitalization, may have an incomplete outcome, or may be even lethal.² Therefore, anti-SARS-CoV-2 vaccinations may prevent death, but they may also cause harm or fatalities.

Severe side effects reported in the pediatric or adult population include thrombocytopenia, multisystem inflammatory syndrome-children, thrombosis, myocarditis, bronchiolitis,³ pancreatitis, Guillain Barre syndrome, meningitis, stroke, encephalitis, hypophysitis, acute, hemorrhagic encephalopathy, acute disseminated encephalomyelitis, epilepsy, multiple sclerosis, and myasthenia.⁴ Vaccinations may also cause placentitis and may secondarily cause stillbirth.⁵ Furthermore, not all side effects that occur are also reported to the health authorities or published.

There are also patients who develop only mild symptoms after an mRNA-based vaccine but these side effects may persist

over months, therefore severely interfering with mood, the daily activities, and the social status (long post-SARS-CoV-2 vaccination syndrome).⁶ Therefore, there is a need to prevent even mild side effects if they persist.

Those who experience severe side effects or even death following an anti-SARS-CoV-2 vaccination, often wish not having ever received the vaccine, whereas those who have lost unvaccinated relatives due to COVID-19 may wish that their lost relatives would have been vaccinated. These divergent needs need to be accomplished, and this may be achieved only through developing completely new vaccines with higher safety profile than those currently on the market. There is an urgent need to invent anti-SARS-CoV-2 vaccines without major side effects, to win the trust of vaccine sceptics.

REFERENCES

1. Liang KH, Hung KF, Wang ML, Chang TJ, Cheng YF, Chiang SH, et al. SARS-CoV-2 vaccines in children and adolescents: can immunization prevent hospitalization? *J Chin Med Assoc* 2022;85:891–5.
2. Finsterer J. Neurological side effects of SARS-CoV-2 vaccinations. *Acta Neurol Scand* 2022;145:5–9.
3. Lee M, Hwang JY, Park SE, Jung S, Jo KJ. A case report of postinfectious bronchiolitis obliterans after coronavirus disease 2019 in a 10-year-old child. *J Korean Med Sci* 2022;37:e246.
4. Consolini R, Costagliola G, Spada E, Colombatto P, Orsini A, Bonuccelli A, et al. Case report: MIS-C with prominent hepatic and pancreatic involvement in a vaccinated adolescent - a critical reasoning. *Front Pediatr* 2022;10:896903.
5. Konstantinidou AE, Angelidou S, Havaki S, Paparizou K, Spanakis N, Chatzakis C, et al. Stillbirth due to SARS-CoV-2 placentitis without evidence of intrauterine transmission to fetus: association with maternal risk factors. *Ultrasound Obstet Gynecol* 2022;59:813–22.
6. Finsterer J. Long post-COVID vaccination syndrome. *Brain Nerves* 2022; Available at https://www.oatext.com/Brain-and-Nerves-JBN.php#Submit_Manuscript. Accessed August 26, 2022.

*Address correspondence. Dr. Josef Finsterer, Neurology & Neurophysiology Center, Postfach 20, 1180 Vienna, Austria. E-mail address: ffigs1@yahoo.de (J. Finsterer).

Conflicts of interest: The authors declare that they have no conflicts of interest related to the subject matter or materials discussed in this article.

Journal of Chinese Medical Association. (2023) 86: 345.

Received August 27, 2022; accepted September 2, 2022.

doi: 10.1097/JCMA.0000000000000814.

Copyright © 2022, the Chinese Medical Association. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>)