Consider differentials of unilateral facial palsy as complications of SARS-CoV-2 vaccinations

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TO THE EDITOR:

With interest we read the article by Shemer et al. [1] about nine patients who developed unilateral, peripheral facial nerve palsy after vaccination with the mRNA vaccine BNT162b2. The authors concluded that a causal relation between the vaccination and the neurological compromise could not be established and that the pathophysiological mechanism remains elusive. The study is appealing but raises the following comments and concerns.

The main limitation of the study is that the nine participants had not undergone neurological investigations [1]. Since there are indications that severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) triggers the development of Guillain-Barre syndrome (GBS) and that SARS-CoV-2 vaccination may be occasionally complicated by the occurrence of GBS [2], it is crucial that all nine patients were seen by a neurologist. Since various subtypes of GBS can be accompanied by affection of a single or multiple cranial nerves [3], it is crucial that GBS was excluded in all nine patients. GBS is usually diagnosed according the Brighton criteria to clinical assessment, nerve conduction studies, cerebrospinal fluid investigations, and eventually magnetic resonance imaging with contrast medium of the spinal nerve roots [3]. Thus, we should be told if any of the nine patients had involvement of other cranial nerves or even involvement of peripheral nerves, how many had undergone lumbar puncture, and whether nerve conduction studies to confirm or rule out affection of nerves other than the facial nerve were performed.

There are several arguments against a causal relation between the vaccination and facial palsy. First, in two patients the latency between vaccination and development of facial palsy was fairly long (26 and 30 days, respectively) [1]. Side effects after such a long latency cannot necessarily be attributed to the vaccination. Second, nothing is reported about the exclusions or confirmation of alternative causes of the facial palsy. We should know in how many patients was there a malignoma, borreliosis, or herpes zoster. Third, since publication of this report only four additional patients have been reported, as of the end of March 2021, who developed facial palsy time-linked to a SARS-CoV-2 vaccination [4] suggesting that the prevalence of peripheral facial palsy has not increased since introduction of SARS-CoV-2 vaccines.

Another limitation is that it is unknown how many of the nine patients had already developed antibodies against SARS-CoV-2 and how many patients were SARS-CoV-2 positive despite having received the vaccination.

A further limitation is that nuclear facial palsy was not considered for any of the nine patients. We should know how many had undergone cerebral imaging to exclude a lesion of the facial nucleus in the pons or affection of the facial tract radiating from the nucleus to the ventral side of the pons.

Patient 2 of the case series obviously had developed facial palsy plus (Ramsey Hunt syndrome) due to a varicella zoster virus (VZV) infection [6]. Since the management of Ramsey Hunt syndrome due to VZV infection is challenging and the outcome often worse as compared to Bell’s palsy, we should be informed about the therapeutic management and outcome of patient 2 after her second vaccination.

In patient 3, VZV infection occurred prior to the SARS-CoV-2 vaccination, which is why it is more likely that VZV was responsible for facial palsy rather than the vaccination.

A further limitation is that the current medications the included patients were regularly taking was not provided. Since a number of drugs can be neurotoxic, it is crucial to know which drugs these patients were taking at the time facial palsy developed.

Overall, this interesting study has several limitations which challenge the results and their interpretations. GBS and nuclear facial palsy need to be discussed in all patients, results of nerve conduction studies should be provided and alternative causes of facial palsy should be excluded. It should be mentioned how many of the vaccinated patients were SARS-CoV-2 positive or had developed antibodies against the virus.

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References


Reading is seeing by proxy.
Herbert Spencer (1820–1903), philosopher