

Clinical Case Reports

Transient Bell's palsy following Covid-19 vaccination

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ABSTRACT

Bell's palsy is described as an acute, unilateral mononeuropathy of the facial nerve resulting in partial or complete paralysis of the face with no identifiable cause. Although facial palsy is often idiopathic, its development soon after the BB-152 Covid vaccine is exceedingly rare. We report a patient with transient acute-onset unilateral infranuclear facial palsy following vaccination, after an exhaustive work-up for other common causes was negative. With no detectable aetiology the likelihood of an association of the Covid-19 vaccine and Bell's palsy remains.

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INTRODUCTION

Bell's palsy is the most common cause of peripheral facial nerve paralysis, presenting as acute, idiopathic, unilateral, and partial to complete paralysis of the facial muscles in a susceptible individual.¹ The annual incidence of the disease is about 25 per 100 000 or 1 in 60 people in the entire life span.² Although a relatively common entity, the actual pathogenic mechanism behind the disease is yet to be established. Neurological after-effects including anosmia, headache, demyelinating illnesses especially Guillain–Barre syndrome, seizures and encephalopathy have been reported after the introduction of various vaccines against SARS-CoV-2. We report an elderly woman who developed Bell's palsy following administration of the BB-152 vaccine.

THE CASE

A 62-year-old woman presented in early September 2021 to the medical emergency of our hospital with complaints of sudden-onset facial asymmetry and inability to close her left eyelid (Fig. 1). She suffered from no medical comorbid conditions except hypertension that was adequately controlled. She was not on any other medications. On further probing, she said she had taken the first dose of the BB-152 Covid-19 vaccine the evening before. She denied any history of ear pain or discharge,

taste disturbances, neck or parotid swelling, and prior herpes elsewhere. There were no similar episodes in the past. She also denied any history of substance abuse.

On clinical examination, she was a moderately built and nourished woman with a body mass index (BMI) of 26 kg/m² and was oriented well to time, place and person. Her haemodynamic parameters were within normal limits. There was no obvious rash. Cardiovascular, respiratory and abdominal examinations were unremarkable. Cranial nerve examination revealed an isolated left facial paralysis (House Brackmann, Grade 4)³ involving the upper half of the face. The rest of the neurological examination including the motor, sensory and cerebellar examination was unremarkable. Haematological and urinary investigations were normal for her age. A clinical diagnosis of vaccine-associated left infranuclear facial paralysis was made and she was started on low-dose prednisolone that was tapered over 4 weeks in consultation with an Otolaryngology specialist. By the second week of illness, she started noticing improvement and after 3 months, it had resolved completely.

DISCUSSION

It is known that a few Covid-19 vaccines have adverse events including the Oxford-AstraZeneca vaccine (ChAdOx1nCoV-19) from the UK⁴ and the Chinese Sinovac vaccine in Brazil. The American Neurological Association has reported (data from FARES/VARES) numerous cases of stroke, Guillain–Barre syndrome, acute transverse myelitis, acute disseminated encephalomyelitis (ADEM), and a few cases of chronic inflammatory demyelinating polyradiculoneuropathy (CIDP) although facial nerve palsy has been reported less commonly.⁵

The risk of acute-onset peripheral facial nerve palsy has been found to be increased especially in the immediate post-vaccination period. The cause of development of Bell's palsy, in general, is still unclear although the activation of dormant



FIG 1. Face showing complete lower motor neuron facial palsy on day 2 of vaccination

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herpes simplex virus in the geniculate ganglion attracts gravity, suggesting precedence of otalgia before the signs of facial palsy appear.⁶ The autoimmune theory in post-vaccination palsy suggests that the inactivated virus containing numerous viral antigens can alter the immune response in patients.⁷ Although hypertension-related neuropathy could theoretically cause Bell's palsy, it is unlikely as her blood pressure was under control since the time of her diagnosis. No other cause was found in her.

The prognosis of the disease is excellent, with more than 80% improving spontaneously and completely as in our patient. Only around 5% of patients are left with either severe or residual facial paralysis necessitating physiotherapy and other cosmetic procedures.⁸ Further studies are needed to ascertain the temporality and causation factor of the BB-152 and other Covid-19 vaccines in Bell's palsy so that early recognition and prompt treatment if required can be provided to avoid possible vaccine hesitancy among people.

Conclusion

Bell's palsy following Covid-19 vaccination warrants attention

for active surveillance and reporting of the former. This being reversible or treatable, we recommend that the pace of vaccination should continue keeping the risk–benefit ratio of vaccines in mortality prevention in Covid-19.

Conflicts of interest. None declared

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