

**CASE REPORT OF BELL'S PALSY FOLLOWING SECOND DOSE OF COVISHIELD VACCINE**NAGMA BANSAL<sup>1</sup>, SULENA SULENA<sup>2</sup>, RAJ KUMAR<sup>1\*</sup>, MAMATA SINGH<sup>1</sup>, AMANDEEP KAUR<sup>1</sup><sup>1</sup>Department of Pharmacology, Guru Gobind Singh Medical College and Hospital (Baba Farid University of Health Sciences), Faridkot, Punjab, India. <sup>2</sup>Department of Neurology, Guru Gobind Singh Medical College and Hospital (Baba Farid University of Health Sciences), Faridkot, Punjab, India. Email: anurajkumar76@gmail.com

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**ABSTRACT**

Bell's palsy, also known as acute peripheral facial palsy of unidentified reason, is caused by the acute onset of problems with the facial nerve's lower motor neuron. Several case reports and series have described peripheral facial nerve palsy associated with COVID-19. In addition, since the US food and drug administration's (FDA) emergency use authorization of several COVID-19 vaccines, there have been media reports of Bell's palsy associated with vaccination. This case concerns a 26-year-old female with Bell's palsy (confirmed by clinical diagnosis – an acute unilateral facial nerve paresis or paralysis with onset in >72 h) after receiving second dose of Covishield vaccine (ChAdOx1 nCoV-19). She experienced decreased sleep, dizziness, and left side eye watering post-vaccination. Next day after vaccination, she noticed muscle weakness on the left side of the face, preventing her from close left eye, drinking fluids, and facial droop accompanied by reduced mobility. The patient was treated with methylprednisolone and eye drops (lubricants).

**Keywords:** Bell's palsy, Covishield, Methylprednisolone, Adverse event, Pharmacovigilance.© 2022 The Authors. Published by Innovare Academic Sciences Pvt Ltd. This is an open access article under the CC BY license (<http://creativecommons.org/licenses/by/4.0/>) DOI: <http://dx.doi.org/10.22159/ajpcr.2022v15i7.44844>. Journal homepage: <https://innovareacademics.in/journals/index.php/ajpcr>**INTRODUCTION**

Bell's Palsy, also known as acute peripheral facial palsy of sudden onset, is caused by acute onset of problems with the facial nerve's lower motor neuron [1]. It is caused by acute onset of problems with the facial nerve's lower motor neuron [1]. Some etiologies emphasize that it is due to a viral infection that results in inflammation. Bell's palsy is an adverse event reported in the product information of two vaccines developed with a novel mRNA technology [2]. Another study showed an overall increased risk of Bell's palsy after immunization with CoronaVac (Sinovac Biotech), a vaccine that uses the inactivated virus [3].

At present, two vaccines were granted Emergency Use Authorization (EMA) by the Central Drugs Standard Control Organization (CDSCO) in India, Covishield (AstraZeneca's vaccine manufactured by Serum Institute of India) and Covaxin (manufactured by Bharat Biotech Limited) for the prophylaxis against COVID-19 infection for adults (>18 years of age). Sputnik-V has been granted EUA in the month of April 2021 [4]. Initial efficacy and safety data for Covishield (ChAdOx1 nCoV-19) vaccine have been published [5]. This Covishield vaccine is replication-deficient viral vectored vaccines which have been used in immune-compromised individuals with no safety concerns [6–8]. Fact sheets for vaccine recipients and caregivers of neither of the vaccines distributed manufacturers warn about Bell's palsy as a possible adverse effect [9,10].

Covishield is replication-deficient chimpanzee adenovirus (ChAdOx1) vector encoding the S glycoprotein of SARS-CoV-2. It is given as intramuscular (IM) injection only, preferably in the deltoid muscle with two separate doses of 0.5 ml each for prophylaxis of COVID-19 infection. Here, we present a case of Bell's palsy after Covishield vaccination.

**CASE REPORT**

This is the case of a patient who developed Bell's palsy next day after being vaccinated with second dose of Covishield. The patient consented to the publication of the personal information included in this article.

The patient was a 26-year-old female with no relevant medical history. She received first dose of Covishield on October 22, 2021 and experienced mild fever after vaccination. Fever was treated with tablet paracetamol 650 mg. After 12 weeks (on January 13, 2022), she received the second

dose of the Covishield vaccine. At night, she experienced decreased sleep, dizziness, and left side eye watering. Next day on January 14, on awakening, she noticed muscle weakness on the left side of the face, unable to close her left eye. She also noticed difficulty to have fluids orally (Figs. 1 and 2).

The patient visited department of Neurology, GGS Medical College and Hospital, Faridkot, Punjab with the chief complaints. Physical examination revealed hemifacial paresis. The provisional diagnosis was accompanied by a moderate Bell's sign (failure to close the eye on the affected side with exposure of the sclera). No history of trauma, cold, or other identifiable triggers was reported and no other signs or symptoms were present. Specifically, no history of a preceding infection, including recent SARS-CoV-2 infection, was reported and there was no evidence of a cutaneous rash suggestive of Herpes Zoster infection. The patient is non-hypertensive and non-diabetic. No history of any other weakness in any side of the body was present. There was no history of any other neurological deficit. On examination, wrinkling of the left side forehead was absent, left side nasolabial fold was also absent. Lagophthalmos and mild labial hypomobility were also recorded. The clinical diagnosis confirmed Bell's palsy – an acute unilateral facial nerve paresis or paralysis with onset in >72 h and without identifiable cause [11].

The patient was treated with tablet methylprednisolone at 8 mg/day for 7 days, which was subsequently tapered to 4 mg/day for 7 days and 2 mg/day for the next 7 days, with a total of 21 days of treatment. She was instructed to protect and lubricate the eye with tear plus eye drops (lubricating eye drops containing povidone and polyvinyl alcohol) 3 times a day and an eye patch at night. Tablet methylcobalamine 1500 µg OD was subsequently added to accelerate recovery of the affected nerve. At 21 days, after completing the course of corticosteroids, paresis began to improve, although the patient continued to have difficulty fully closing the eye and raising the labial commissure; this progression is compatible with the course of the disease [11].

**DISCUSSION**

No data are available concerning neurophysiological and cerebrospinal fluid investigations, as these were not considered essential in case of Bell's palsy which is fundamentally a clinical diagnosis and that there is no specific laboratory test to confirm the disorder. It is characterized by rapidly progressive (>72 h), unilateral, and generally self-limited



**Fig. 1: Before vaccine**



**Fig. 2: After vaccine**

symptoms that resolve within 3–6 months in 80% of cases [11]. Its etiology is uncertain and it may be triggered by numerous causes [11]. Laboratory or other diagnostic tests can surely be useful in excluding other conditions such as Lyme disease (not common in our geographical area) or neuropathies such as Guillain–Barre' syndrome, or also brain tumors. These are especially useful when clinical presentation is not typical and, hence, was not undertaken in our patient.

In this case, the onset of Bell's palsy was reported 1 day after the second dose of Covishield vaccine. The participant did not experience such problem on first dose. Hence, our case is currently the only peer-reviewed report that describes in detail the signs and symptoms that led to a diagnosis of Bell's palsy in a ChAdOx1 nCoV-19 (Covishield) vaccine recipient. Although a causal relationship cannot be established for most rare adverse events, the timing and mode of onset of the palsy strongly suggests that it was probably related to ChAdOx1 nCoV-19 vaccine injection that was managed by giving symptomatic treatment.

#### CONCLUSION

We consider that it would be beneficial for the healthcare authorities to emphasize the importance of monitoring patients developing Bell's palsy after the administration of ChAdOx1 nCoV-19 vaccines. Given health authorities' recommendation of surveillance for cases of Bell's palsy, we believe that this case should be shared with the scientific community in a timely fashion.

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#### AUTHOR'S CONTRIBUTIONS

Dr. Nagma: Took detail history and wrote manuscript. Dr. Sulena: Case reported, diagnosed and its management. Dr. Raj Kumar: Case report assessed and edits manuscript. Ms. Amandeep Kaur: Causality Assessment, retrieving of evidence, follow-up of case. Dr. Mamta Singh: Case examination and receiving detailed history.

#### CONFLICTS OF INTEREST

The authors have no conflicts of interest.

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#### PATIENT'S CONSENT

Written informed consent was obtained from the patient for the publication of this case report.

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