

ABSTRACT

Bell's palsy following the administration of the COVID-19 mRNA vaccine is a rare adverse event described in the literature. We report the case of a healthy 26-years-old male patient who presented an acute onset of a left Bell's palsy 6 days after the administration of the first dose of COVID-19 BNT16b2 mRNA vaccine. Two similar cases to ours were described and adopted the same conduct with did with good results. Studies showed that there was a significantly higher incidence of Bell's palsy following the administration of the vaccine compared to the general population. A better knowledge of these adverse events (AEs) will help monitor patients with this presentation. More studies could be needed to have an assessment of the incidence of these AEs and confirm the findings of certain studies.

INTRODUCTION

The global spread of the COVID-19 virus required emergency authorization for use of the newly developed vaccine to help contain the pandemic. The systemic and local side effects reported in the literature were fatigue, nausea, muscular pain, fever, and pain in the injection site [1]-[3], more serious complications such as allergy and anaphylactic choc was rarer [2]. Bell's palsy is a rare and transitional adverse event following immunization in general [3], it was rarely reported in clinical trials of the COVID-19 vaccine and none of the recent studies can rule the implication of the COVID19 vaccines in the onset of Bell's Palsy [2]. We report the case of a healthy 26-years-old male patient who presented an acute onset of a left Bell's palsy 6 days after the administration of the first dose of COVID-19 BNT16b2 mRNA vaccine.

CASE REPORT

We report the case of a 26 years-old male patient, with no particular medical history, especially no history of diabetes, nor a history of any craniofacial trauma or an infectious episode before his symptoms. The patient received the first dose of the COVID-19 BNT162b2 mRNA vaccine 9 days prior to his admission. On the 6th day, He presented facial droop, effacement of the nasolabial fold, and flaccidity on the left side of the face, with no associated signs; no tinnitus, no hearing loss, no vertigo, no neurological signs; evolving in a context of apyrexia and conservation of the general state. The clinical examination showed complete paralysis of the left side of the face and effacement of frontal wrinkles (Fig 1), there was no vesicular eruptions in the Ramsey hunt area. The Otological examination was normal. The tonal audiometry showed a normal hearing threshold (Fig. 2), the impedancemetry showed a normal tympanogram and a preserved stapedius reflex (Fig. 3). and a normal Schirmer test. We confirmed the diagnosis of an acute unilateral left Bell's palsy of the second portion of the facial nerve, classified grade III of house and Brackmann, after winnowing out deferential diagnoses such as facial zona, post-traumatic facial palsy, or other organic facial nerve pathologies. The patient was treated with prednisone (1 mg per kg per day) for 10 days, with a progressive reduction of 5 mg each day until the dose of 10 mg per day, then 2.5 mg reduction every 2 days, and then stopped. The treatment was associated with eye protection eye drops, an eye patch at night, and a B-complex vitamin. A facial motor rehabilitation was prescribed. The evolution was marked by a regression of the facial palsy, after three weeks of treatment, it was classified a grade II by House and Brackmann.



Fig. 1. Left bell's palsy, grade III of house and brackmann.

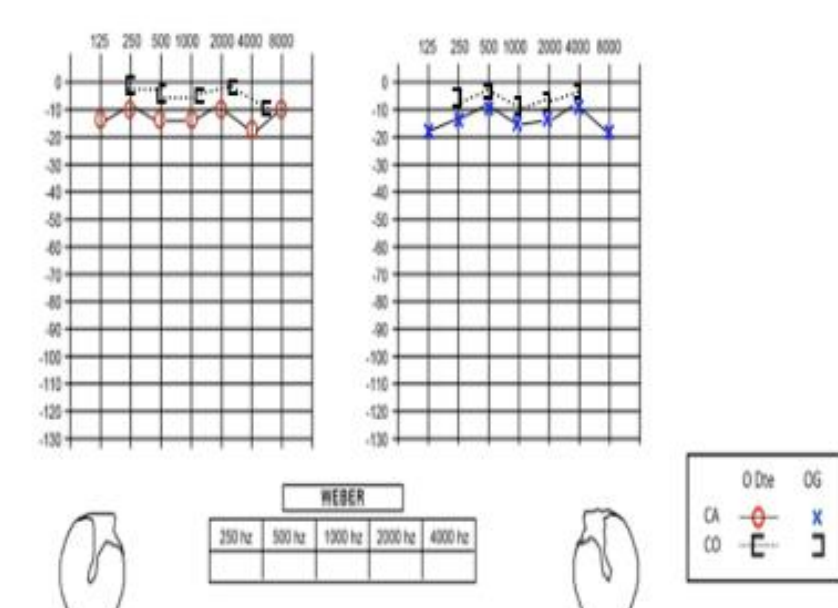


Fig. 2. Tonal audiometry showing a normal hearing threshold in both sides.

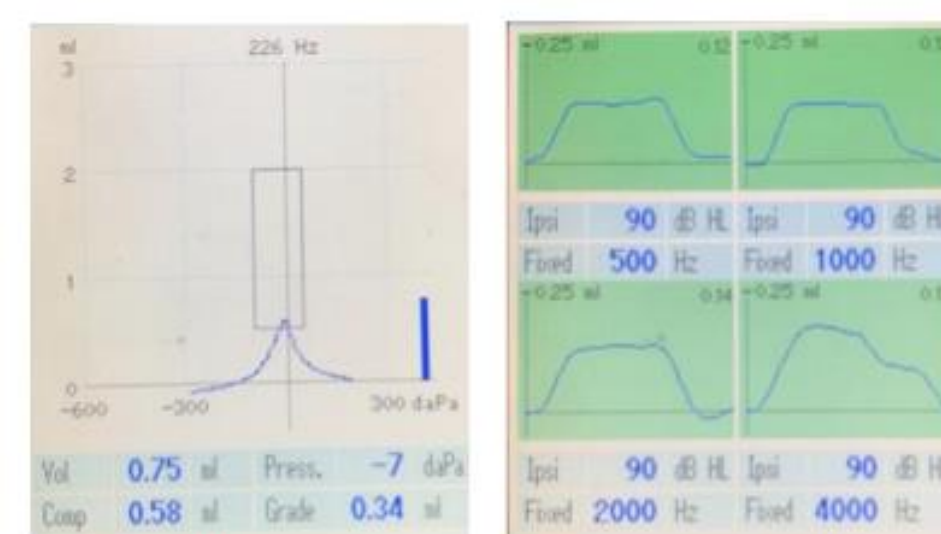


Fig. 3. Normal tympanogram and conserved stapedii reflex.

DISCUSSION

The emergence of the SARS-COV2 COVID19 in 2019 had an important impact on the international health system which led to an urgent need for a newly developed vaccine to control the worldwide spread of the virus, in case the infection and decrease in the severity of the clinical presentation thus a reduction in virus-related mortality [1]. The newly developed mRNA vaccine BNT162b2 gives 95% protection against COVID-19 after two-dose administration [2]. The FDA reports showed that the mRNA BNT16b2 vaccine causes common effects such as fatigue, headache, fever, and chills [1]-[3].

Facial palsy has been studied wildly by authors showing an elevated incidence of Bell's palsy following the administration of the influenza vaccines [1]-[3].

Though the FDA reported that unilateral facial nerve palsy was rarely observed in earlier clinical trials [2]. Ozonoff and al. explained in their paper that this advanced event could be related to an innate immune activation that conducts the production of interferon [1].

Multiple authors studied the incidence of Bell's palsy following the administration of the mRNA BNT16b2 and showed that the incidence is 5 to 7 times higher than the general population [3].

In a case series published by [3] 16 cases were reported to have developed unilateral facial palsy following the administration of the vaccine. Other series published in early 2021 reported multiple occurrences of facial palsy that were significantly related to the vaccination by mRNA BNT16b2 [1].

Reference [3] concluded that facial nerve palsy following COVID-19 mRNA vaccination was equivalent to that following influenza vaccines.

Reference [1] and [2] reported cases with a similar presentation to ours following the administration of the same vaccine and that was treated with corticosteroids with good evolution.

Although the different studies reported a higher incidence of Bell's palsy in patients administrated with the COVID-19 mRNA vaccine compared to the general population [1]-[3], the benefits of the vaccine to ensure the control of the propagation of the COVID-19 virus and reduce the severe clinical forms and thus reduce the mortality related to the complications caused by the virus are way more important than all the adverse events [1]-[3].

Still, it is important for the health authorities to report to the pharmacovigilance services, all patients developing Bell's palsy following the administration of the COVID-19 mRNA vaccine to assess the incidence of this adverse event.

CONCLUSION

Bell's palsy following the administration of the Covid-19 mRNA vaccine, is a rare adverse event described in the literature. Two similar cases to ours, were described and adopted the same conduct with did with good results. Studies showed that there was a significantly higher incidence of bell's palsy following the administration of the vaccine compared to the general population.

A better knowledge of this adverse event (Aes) will help monitor patients with this presentation. More studies could be needed to have an assessment of the incidence of this Aes and confirm the findings of certain studies.

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