Case Report

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Peripheral Facial Paralysis After COVID-19 BioNTech ® Vaccine

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Abstract

Bell's palsy, also known as acute peripheral facial nerve palsy of unknown cause, commonly manifests with sudden onset of unilateral facial paralysis. This case report describes two patients who has Bell's palsy after their first dose of the Pfizer-BioNTech vaccine.

Keywords: Bell's palsy, Pfizer-BioNTech vaccine, side effect.

Introduction

Bell's palsy, also known as acute peripheral facial nerve palsy of unknown cause, commonly manifests with sudden onset of unilateral facial paralysis. Bell's palsy is usually transient, with 70% of patients recovering within 6 months without treatment. The facial nerve, supplies motor innervation to the muscles of expression of the face and scalpand the satapedius muscle and taste to anterior two thirds of the tongue. Onset of facial paralsis is acute, with maximal semptoms in 2 to 3 days. The symptoms of Bell's palsy include sudden weakness in your facial muscles. The weakness makes half of your face appear to drop. Your smile is one-sided, and your eye on that side resists closing. Facial numbness or hyperesthesia can accompany paralysis. On exam patient will have facial drop effacement of wrinkles and forehead burrows and inability to completely close the eye.

Diagnosis of the Belly's palys is based on history and physical examination. Bell's palsy remains idiopathic, but a proportion may be caused by reactivation of herpes viruses from cranial nerve ganglia.Bell's palsy is a rare adverse event reported in clinical trials of COVID-19 vaccines.

Case Report

This case report describes two patients who has Bell's palsy after their first dose of the Pfizer-BioNTech vaccine. Two female patients, 42 years old and 19 years old, with no previous history of facial nerve palsy, suffered a Bell's palsy after 3 days BioNTech vaccination, one on the left side of the face and the other 19 years old on the right side of the face. The 42 years old woman noticed muscle weakness on the left side of the face and visited the emergency department. She presented facial droop, effacement of the nasolabial fold, and flaccidity on the left side of the face. Physical examination revealed complete paralysis of the left side of the face (the patient was unable to raise his eyebrow, close his right eye, or lift the labial commissure. The other has the same complaints on the right side of her face. Routine blood tests and a head Computerized Tomography (CT) scan are normal. These patients has no history of trauma or systemic infection. After prednisone treatment both patients showed improvement at follow-up examinations.

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Discussion

Coronaviruses (CoV) are large family of viruses. Symptoms of COVID-19 are often variable, but common symptoms include fever, cough, fatigue, difficulty breathing, anosmia and loss of sense of taste. About one in five people who are infected do not have any symptoms.Although most people have mild symptoms, it can cause acute respiratory distress syndrome (ARDS) in some people. ARDS can cause cytokine storms, multi-organ failure, sepsis and thrombosis. Long-term damage to organs (especially lungs and heart) has been observed. COVID 19 is most known for affecting the upper respiratory tract and the lower respiratory tract. A COVID 19 vaccine is a vaccine intended to provide acquired immunity against severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). Vaccines prevent the spread of viral infection and reduce its mortality. Although in many cases, mild side effects such as injection site pain, mild fever, fatigue, headache, arthralgia, and myalgia are reported, several cases with neurological manifestations after COVID-19 vaccination have been observed. One of the neurological manifestations of COVID-19 vaccines is Bell's palsy. Two clinical trials reported seven cases of Bell's palsy. The FDA did not consider a clear relationship between the vaccine and Bell's palsy[1-4].

Conclusion

Although still unproven, growing evidence suggests a relationship between the covid vaccine and bell's palsy. Therefore, it would be helpful to follow patients for bell palsy after administration of mRNA vaccines.

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