

Herpes Zoster after COVID-19 Vaccine: a Case Report

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ABSTRACT

The first COVID-19 cases appeared in Wuhan, China, in December 2019. Several skin manifestations may be associated with the disease. Herpes zoster have been reported to follow COVID-19 infection. Herpes zoster is a reactivation of latent infection with VZV which is most commonly triggered by increased age and immunosuppression. Herpes zoster developing after (non herpes) vaccination have been reported in the literature. We here report a case of herpes zoster appeared 6 days after COVID-19 vaccination. This may be caused by immunomodulation caused by the vaccine. However such a relationship to be confirmed needs more and larger studies. With the current massive COVID-19 vaccination all over the world, we believe that such a possible association should be reported to be available to researchers to investigate it thoroughly.

Keywords: Herpes zoster, COVID-19, COVID-19 vaccines

INTRODUCTION

As the rate of people infected with the COVID-19 increases, the rate of deaths has also been increasing (1). COVID-19 is a multisystem disease with several cutaneous manifestations have been reported to be associated with.(2) . Several vaccines against COVID-19 have been developed and are being administered in various countries in attempt to prevent the disease and its transmission. Chimpanzee adenovirus vectored vaccines are widely used in several countries including Saudi Arabia. Common side effects of the vaccine are fever, pain, headache and muscle/joint pain.(3).

Herpes zoster is a reactivation of dormant varicella zoster virus primary infection. Causes of reactivation include increased age, immunosuppression, mechanical trauma and psychological stress (4). However it has been reported that Varicella zoster virus (VZV) reactivation can follow vaccination against other (non-herpes) viruses (5). We report here a case of herpes zoster after COVID-19 vaccination.

CASE

A 65 year-old Saudi male known case of coronary heart disease, hypertension and diabetes mellitus with known history of chicken pox at childhood presents to our clinic with painful vesicles and burning sensation right aspect of chest for 3 days duration. **Figure (1)**



Figure (1): Grouped vesicles and ulcerations right side of chest.

The patient received first dose of COVID-19 vaccine 6 days prior to the onset of his skin symptoms. It was a chimpanzee adenovirus vectored vaccine which is widely used in several countries against COVID-19. He is not on any immunosuppressive medications and there were no recent history of physical or psychological stress. Diagnosis of herpes zoster was made on classic history and typical physical examination. The patient was treated with a 7 days course of acyclovir and topical fusidic acid.

DISCUSSION

Herpes zoster is not uncommon disease especially in older age group. 10 cases per 1,000 patient-years incidence is reached at age of 80 (4). It is hypothetically supposed that when cell-mediated immunity against varicella zoster virus declines below an unknown threshold, herpes zoster gets reactivated.(4) Varicella zoster virus (VZV) reactivation has been reported in immunocompetent individuals with COVID-19 infection.(6,7). This may result from lymphopenia and functional impairment of cellular immunity associated with COVID-19 infection.(8) Walter et al have reported 3 cases a 53-year-old woman, a 80-year-old woman and a 27-year-old man who developed herpes zoster after vaccinated against hepatitis A, influenza virus, and rabies respectively.(5) Immunomodulation by vaccines have been reported, and suppression of cell-mediated immunity by killed measles virus has been observed (9). These immunomodulations could result in reactivation of VZV. Causal relationship between COVID-19 and herpes zoster has not been confirmed yet however several reports are being published indicating that there could be an association between the two conditions. Median duration from COVID-19 infection and onset of herpes zoster is 5.5 day. (10) This is close to our case where herpes zoster developed 6 days after the vaccine. There is not enough data on immune responses to the COVID-19 vaccines at cellular level which would be helpful in figuring out the relationship between the vaccines and VZV reactivation.

CONCLUSION

As these vaccines are newly developed and being used on a very large scale, we believe that reporting such a possible association is very important to the medical

literature. However larger epidemiological studies are needed to confirm such an association.

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