

Reports of Herpes Simplex Reactivation After Covid Vaccination: A Case Series

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Abstract

Vaccination is a safe and effective way to control preventable infectious diseases. Since December 2019 world has been facing a global pandemic of COVID-19. Physicians and Scientists were totally baffled and unprepared for this sudden emergency, but continued efforts of researchers help control the disease. Apart from the emergency use authorization of drugs experts swiftly explored a number of candidate COVID-19 vaccines including live attenuated, viral-vectored, nucleic acid - DNA and RNA, protein subunit and inactivated vaccines. Post approval from regulatory authorities in India, Ministry of health and family welfare introduced a vaccine in the market after successful phase II/III clinical trials.

Keywords: Vaccination; COVID-19; Herpes Simplex Reactivation

Introduction

Two Indian candidate vaccines were launched in the market in first phase-Covaxin and Covishield. Covaxin developed by Bharat Biotech, is an inactivated vaccine which provides a vigorous immune response. Covishield- The Oxford-AstraZeneca vaccine, being manufactured locally by the Serum Institute of India (SII), has a weakened version of adenovirus derived from chimpanzees. Recombinant Chimpanzee Adenovirus vector vaccine encodes the SARS-CoV-2 Spike (S) glycoprotein which helps in developing immunity against the SARS-CoV-2. The SII and Indian Council of Medical Research (ICMR) jointly conducted a Phase II/III, Observer-Blind, Randomized, Controlled Study to Determine the Safety and Immunogenicity of Covishield which was found to be efficacious and safe. Hence both these vaccines were approved for restricted use in emergency situation on 3rd January 2021 [1,2].

Though vaccines have high immunogenicity but safety is still a matter of concern. Adverse event following immunization (AEFI) is any untoward medical occurrence which follows immunization and which does not necessarily have a causal relationship with the usage of the vaccine [3]. It can be an unfavorable or inadvertent sign, unusual laboratory result, symptom or disease. These AEFI should be promptly recognized and appropriate treatment should be initiated. In order to respond to vaccine safety issues, WHO has established a Global Advisory Committee on Vaccine Safety.

AEFI can be classified as Vaccine related reactions, vaccine quality defects related reactions, immunization error related reaction, anxiety related reactions or some accidental unprecedented events. These reactions can be mild, moderate or severe, fever being the most common reaction. It is considered as serious, if it is life-threatening, requires hospitalization or prolongs existing hospital stay, causes significant disability, permanent injury or damage, results in congenital anomaly or birth defect or leads to death.

Herpes simplex and Varicella Zoster virus are known to be dormant viruses persisting in the neuronal cells after a primary infection in a latent state. Any triggering factor like immunocompromised condition, HIV infection, stress, immunosuppressant drug usage, exposure to UV light, trauma to skin, cancer or cell damage reactivates the viral genome, causing replication of virus and flaring up of infection. Vaccination against other non-herpes virus may sometimes induces reactivation of herpes simplex infection, but reports are spurious and rare [4].

The vaccination drive in India began on 16th January 2021 prioritizing initially health care and frontline workers like police and paramilitary forces, sanitation workers and disaster management helpers which will be followed by population above 50 years. We report here 4 cases of Herpes reactivation following COVID-19 vaccination. All patients were administered Covishield under Government of India's initiative of COVID-19 Vaccination.

Case Series

Patients

Patient 1 and 2, were female 24 years medical students who had received first dose of vaccine on 28th January. They developed prodromal phase of 102° fever which started from 24 - 48 hrs followed by weakness, loss of appetite, fatigue, vertigo, delirium and headache. After 1 week of vaccine administration erythema, rashes and sores started developing in the C7 dermatome.

Patient 3, a female 41 year old physician received first dose of covishield on 5th February. After 24 hours she developed prodromal phase of 102° fever along with malaise, fatigue, headache which persisted for 2 days followed by maculopapular rashes, erythema and blisters on 5th day in the umbilical region T10 dermatome. The patient had a previous history of herpes 5 years back.

Patient 4 was 21 year old female paramedical student who also received first dose of vaccine on 5th February. She had similar symptoms with fever after 12 hrs along with myalgia, nausea, lethargy and headache. From 3rd day onward she started developing rashes, tingling sensation, itching and blisters in the T5-6 dermatome. The blisters were fluid filled and tender.

All patients were treated with Oral Acyclovir 400 mg QID for 10 days along with analgesics, antipyretic, antihistamines and other symptomatic treatment.

Causality assessment of all these AEFI were done using WHO-UMC scale and Naranjo's scale and were found to be probable or likely. The Individual Case Safety Report (ICSR's) of these AEFI were filled and reported in the Vigiflow under the Pharmacovigilance Program of India (PvPI).

Conclusion

Herpes Simplex and Varicella Zoster both can be primary or reactivated infection by dormant virus under immunocompromised state. There may be an association between vaccination and secondary permissive herpes infection in these patients. Vaccine induces an immune response which triggers the latent virus to travel via the axon to that particular dermatome causing clinical symptoms [5]. Further case study reports and epidemiological evidences are required to establish the causal association between vaccination and reactivated herpes infection.

Conflict of Interest

None declared.

Bibliography

1. <https://vaccine.icmr.org.in/covid-19-vaccine>
2. "COVID-19 vaccine Covishield gets approval from DCGI's expert panel". *The Hindu* (2021).
3. Global Vaccine Safety.
4. Walter R., *et al.* "Reactivation of herpesvirus infections after vaccinations?" *The Lancet* 353 (1999): 810.
5. AJ Nahmias., *et al.* "Herpes virus encephalitis: laboratory evaluations and their diagnostic significance". *Journal of Infectious Diseases* 145.6 (1982): 829-836.

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