

Reactivation of Herpes Zoster and HHV-6 Following COVID-19 mRNA Vaccine

Glenn Kolansky^{1*} and Zachary Kolansky²

Abstract

A case of Herpes Zoster and HHV-6 reactivation following the COVID-19 mRNA vaccine was presented. The case is unique with a severe Herpes-Zoster reaction, with eyelid edema and hair loss. In addition, there was prominent lymph node swelling as well as high HHV-6 titers at 2.11 and Varicella-Zoster V Ab IgG, more than 4,000. Initial infection of HHV-6 in grown-up is rare, but a mononucleosis-like syndrome of different severity with prolonged lymphadenopathy has been reported. Reactive lymphadenitis positive for HHV-6 have been reported with lymphadenopathy and fever. Reactivation of latent virus usually occurs in an immunocompromised host and Primary infection is not frequent in grown-ups. It is a rare cause of lymphadenitis in an immunocompetent adult.

Keywords: Fever; Swelling; Lymphadenopathy; Immunocompetent.

Introduction

B-herpesvirinae is the subfamily having a member HHV-6 which also includes cytomegalovirus (CMV) and HHV-7. HHV-6 is causes roseola infantum as well as acute lymphadenopathy in adults [1]. While HHV-6 has been documented reactivate in immunocompromised patients [2-4], reactivation in immunocompetent patients is rare [5,6]. Nevertheless, HHV-6 has been

described to reactivate in immunocompetent hosts during illness-related stress [7]. Yet the closely related CMV does not typically cause clinically significant findings when reactivated in immunocompetent individuals [8]. Human CMV reactivation has been associated with sepsis, systemic inflammatory illness, as well as aging [8]. Since reactivation in the viral family is related to the host inflammatory state, acute events that increase

¹Advanced Dermatology Surgery and Laser Center, Tinton Falls, NJ, USA, Assistant Professor at Hackensack School of Medicine, Nutley, USA

²School of Medicine, Tulane University, New Orleans, LA, USA

***Corresponding Author:** Glenn Kolansky, Advanced Dermatology Surgery and Laser Center, Tinton Falls, NJ, USA, Assistant Professor at Hackensack School of Medicine, Nutley, USA

Received Date: 11-15-2022

Accepted Date: 11-18-2022

Published Date: 12-15-2022

Copyright© 2022 by Kolansky G, et al. All rights reserved. This is an open access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

inflammatory markers can subsequently lead to viral reactivation.

Herpes-zoster is characterized by vesicles and ulcerations in a dermatome. By reactivation of varicella-zoster virus (VZV) Herpes-Zoster is produced, which tends to last in a latent state in the dorsal root ganglia of cutaneous nerve ending ensuring a primary episode of chickenpox. VZV can reactivate spontaneously or in association with stress, immunosuppression, or fever. Additionally, there have been reports of reactivation of Varicella-zoster after COVID vaccination [9-13]. For example, Van Dam et. al presented two cases of VSZ reactivation which presented two weeks after vaccination in otherwise two healthy individuals [10].

Case

62-year-old patient came to the office with a two-week report of facial swelling, lymphadenopathy, as well as crusted vesicles on patient mid to left forehead and left sided anterior frontal scalp areas. Patient history is significant for receiving patient first Covid Vaccine (Pfizer-BioNTech Covid -19 mRNA vaccine) on April 8, 2021, from patient local OU vaccine the patient experienced fever and swelling of the pre and post auricular lymph nodes.

A rash appeared on patient forehead; first with “redness,” then blisters. Patient primary care physician prescribed amoxicillin and prednisone with no change in symptoms. One week after patient vaccination fever spiked to 104 degrees Fahrenheit, and patient went to the emergency room for evaluation. On admission, patient CBC, metabolic profile,

chest x-ray and EKG were all within normal limits. Blood cultures were negative. patient was admitted to the hospital for two days and discharged without any treatment.

Patient came at the office approximately 2 weeks after vaccination and after discharge from the hospital. Patient history also revealed that the patient received first Shingles Vaccine (Shingrix) on January 11, 2021. On physical exam Patient had crusted blisters on forehead and scalp with bilateral eyelid edema. Patient was placed on Valtrex 1gm three times a day, topical acyclovir ointment 3x per day.

Blood work on 4/22/21 revealed HHV-6 IgG antibodies were high at 2.11. (positive >1.10). Varicella-Zoster V Ab IgG >4000 (positive >165). Patient was sent for an ophthalmology exam. On 4/22/2021 patient was referred to an Ophthalmologist for evaluation. patient exam revealed a rash with upper eyelid edema with no eye involvement. On 4/23/21 Cefdinir was prescribed due to the significant lymph node swelling and crusting on scalp. Patient returned on May 7th. Exam revealed pre and post auricular lymph node swelling with oozing, and significant hair loss.

The patient continued Valtrex 500mg three times per day, Cephalexin 500mg two time per day for a week, and Xepi cream topically to be applied daily. 6/4/2021 patient present with yellow crusting on scalp and forehead. Patient was prescribed Cefdinir 300mg bid for an additional week. 7/9/21 Crusting and blisters resolved with pigmentary changes on patient forehead and significant left side scalp hair loss. (See Figures 1-6). Five months later patient returned with regrowth of hair.



Figure 1: April 21, 2021.



Figure 2: May 14, 2021.



Figure 3: May 14, 2021.



Figure 4: May 14, 2021.



Figure 5: December 7, 2021.

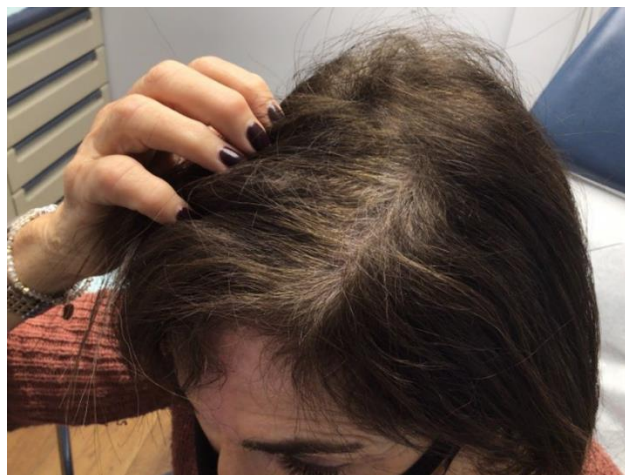


Figure 6: December 7, 2021.

References

1. Yamanishi K, Shiraki K, Kondo T, Okuno T, Takahashi M, Asano Y, et al. Identification of human herpesvirus-6 as a causal agent for exanthem subitum. *Lancet*. 1988;331(8594):1065-7. [PubMed](#) | [CrossRef](#)
2. Yoshikawa T, Suga S, Asano Y, Nakashima T, Yazaki T, Sobue R, et al. Human herpesvirus-6 infection in bone marrow transplantation. [PubMed](#) | [CrossRef](#)
3. Carrigan DR, Tapper MA, Knox KK, Drobyski WR, Ash RC, Russler SK. Interstitial pneumonitis associated with human herpesvirus-6 infection after marrow transplantation. *Lancet*. 1991;338(8760):147-9. [PubMed](#) | [CrossRef](#)
4. Okuno TO, Higashi KA, Shiraki KI, Yamanishi KO, Takahashi M, Kokado YU, et al. Human herpesvirus 6 infection in renal transplantation. *Transplantation*. 1990;49(3):519-22. [PubMed](#) | [CrossRef](#)
5. Balakrishna JP, Bhavsar T, Nicolae A, Raffeld M, Jaffe ES, Pittaluga S. Human Herpes Virus 6 (HHV-6) Associated lymphadenitis–Pitfalls in Diagnosis in Benign and Malignant Settings. *Am J Surg Pathol*. 2018;42(10):1402. [PubMed](#) | [CrossRef](#)
6. Bai Y, Wang Z, Sun K, Yao H. HHV-6-associated acute lymphadenitis in immunocompetent patients: a case report and review of literature. *Am J Surg Pathol*. 2014;7(6):3413. [PubMed](#)
7. Razonable RR, Fanning C, Brown RA, Espy MJ, Rivero A, Wilson J, et al. Selective reactivation of human herpesvirus 6 variant a occurs in critically ill immunocompetent hosts. *J Infect Dis*. 2002;185(1):110-3. [PubMed](#) | [CrossRef](#)
8. Forte E, Zhang Z, Thorp EB, Hummel M. Cytomegalovirus latency and reactivation: an intricate interplay with the host immune response. *Front Cell Infect Microbiol*. 2020;10:130. [PubMed](#) | [CrossRef](#)
9. Vallianou NG, Tsilingiris D, Karampela I, Liu J, Dalamaga M. Herpes zoster following COVID-19 vaccination in an immunocompetent and vaccinated for herpes zoster adult: A two-vaccine related event? *Metabol Open*. 2022;13:100171. [PubMed](#) | [CrossRef](#)
10. Van Dam CS, Lede I, Schaar J, Al-Dulaimy M, Rösken R, Smits M. Herpes zoster after COVID vaccination. *Int J Infect Dis*. 2021;111:169-71. [PubMed](#) | [CrossRef](#)
11. Wan EY, Chui CS, Wang Y, Ng VW, Yan VK, Lai FT, et al. Herpes zoster related hospitalization after inactivated (CoronaVac) and mRNA (BNT162b2) SARS-CoV-2 vaccination: a self-controlled case series and nested case-control study. *Lancet Reg Health West Pac*. 2022;21:100393. [PubMed](#) | [CrossRef](#)
12. Lee TJ, Lu CH, Hsieh SC. Herpes zoster reactivation after mRNA-1273 vaccination in patients with rheumatic diseases. *Ann Rheum Dis*. 2022;81(4):595-7. [PubMed](#) | [CrossRef](#)
13. Drohan A, Kolansky G, Kolansky Z. Herpes zoster following mRNA-1273 COVID-19 vaccination. *Our Dermatology Online/Nasza Dermatologia Online*. 2021:464-5. [CrossRef](#)