



GLOBAL JOURNAL OF MEDICAL RESEARCH: F  
DISEASES  
Volume 21 Issue 6 Version 1.0 Year 2021  
Type: Double Blind Peer Reviewed International Research Journal  
Publisher: Global Journals  
Online ISSN: 2249-4618 & Print ISSN: 0975-5888

## Herpes Zoster Ophthalmicus Following COVID-19 Vaccination: A Case Report

By Elisse Park MD, Christian Mays MD, Sneha Konda MD  
& Christopher Leffler MD

*Virginia Commonwealth University*

**Abstract-** Herpes zoster ophthalmicus is a manifestation of herpes zoster infection, typically with eye symptoms. We report a case of herpes zoster ophthalmicus in a patient who had recently received the Johnson & Johnson COVID-19 vaccine. There have been other case reports of HZO in patients who recently got the same vaccine.

**GJMR-F Classification:** NLMC Code: WW 168



*Strictly as per the compliance and regulations of:*



© 2021. Elisse Park MD, Christian Mays MD, Sneha Konda MD & Christopher Leffler MD. This research/review article is distributed under the terms of the Attribution-NonCommercial-NoDerivatives 4.0 International (CC BY-NC-ND 4.0). You must give appropriate credit to authors and reference this article if parts of the article are reproduced in any manner. Applicable licensing terms are at <https://creativecommons.org/licenses/by-nc-nd/4.0/>.

# Herpes Zoster Ophthalmicus Following COVID-19 Vaccination: A Case Report

Elisse Park MD <sup>α</sup>, Christian Mays MD <sup>σ</sup>, Sneha Konda MD <sup>ρ</sup> & Christopher Leffler MD <sup>ω</sup>

**Abstract-** Herpes zoster ophthalmicus is a manifestation of herpes zoster infection, typically with eye symptoms. We report a case of herpes zoster ophthalmicus in a patient who had recently received the Johnson & Johnson COVID-19 vaccine. There have been other case reports of HZO in patients who recently got the same vaccine.

## I. INTRODUCTION

Herpes zoster ophthalmicus (HZO) is an uncommon manifestation of herpes Zoster which affects the ophthalmic nerve. Ophthalmic manifestations of HZO include keratitis, dermatitis, conjunctivitis, trabeculitis, retinitis, choroiditis, conjunctivitis, scleritis, episcleritis, and cranial nerve palsies.

## II. CASE PRESENTATION

We report a case of herpes zoster ophthalmicus in a patient who had recently received the Johnson & Johnson COVID-19 vaccine.

A 57-year-old woman with history of hypertension and asthma was referred to the eye clinic due to concern for herpes zoster near the right eye. The patient received the Johnson & Johnson COVID-19 vaccine 5 days prior to the visit. She reports that she began having eye pain 2-3 days prior to the visit and then developed a rash.

She denied a history of cancer, diabetes mellitus, radiation therapy, or other conditions associated with systemic immunosuppression.

The visual acuity with her current glasses was 20/100 in the right eye and 20/40 in the left eye. The eye pressure was 16 in the right eye and 16 in the left eye. There was a vesicular rash on the right side of the face in the V1 distribution, including the right upper eyelid. The conjunctiva and sclera of the right eye was mildly injected, while the left eye was white and quiet. The cornea of both eyes was clear. The anterior chamber of both eyes was deep and quiet. The posterior segment exam was normal for both eyes. The patient was started on acyclovir 800 mg by mouth, 5 times daily.

The patient returned for follow up 7 days later. She felt that the rash was improving and that she was able to her open her eye more. Eye examination showed

crusting of some of the vesicles (Figure 1). Her right cornea had a new epithelial defect and multiple punctate epithelial erosions (Figure 2). The patient was started on bacitracin ophthalmic ointment to the right eye and affected areas twice daily morning and night, with the option to use three times daily on affected areas if more needed, and continued acyclovir.

## III. DISCUSSION

This patient received the Johnson & Johnson (J&J) vaccine. While Pfizer and Moderna vaccines are made using mRNA to make a surface protein (known as “the spike”) to activate the immune system; J&J vaccine uses a viral vectored vaccine, an adenovirus, to make spike proteins which then triggers the immune system to create antibodies.

An observational study from Israel reported 6 cases of herpes zoster (HZ) after patients with autoimmune rheumatic diseases received the BNT162b2 mRNA COVID-19 vaccine (tozinameran, Pfizer).<sup>1</sup> Additionally, there have been case reports of patients without known autoimmune conditions that have experienced a reactivation of herpes zoster described in literature in European journals of medicine and dermatology.<sup>2</sup> Although this correlation is new, it is not necessarily unexpected, as there are other cases of HZO reactivation with recent stress or immunomodulation, such as spaceflight, recent vaccinations against influenza, hepatitis A, or rabies.<sup>3-5</sup>

Author <sup>α</sup> <sup>σ</sup> <sup>ρ</sup> <sup>ω</sup>: Virginia Commonwealth University Department of Ophthalmology, Richmond, VA, USA.  
e-mail: elisse.park@vcuhealth.org

## Figures



Figure 1: Vesicular rash in right V1 distribution.

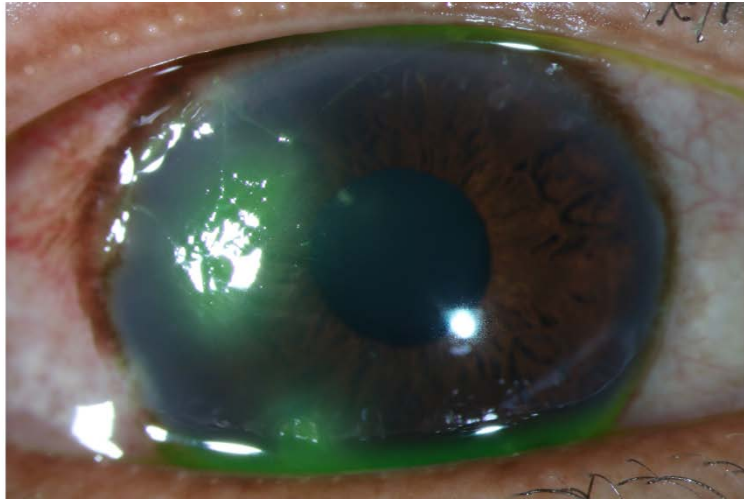


Figure 2: Epithelial defect on right cornea.

## REFERENCES RÉFÉRENCES REFERENCIAS

1. Furer V, Zisman D, Kibari A, Rimar D, Paran Y, Elkayam O. Herpes zoster following BNT162b2 mRNA Covid-19 vaccination in patients with autoimmune inflammatory rheumatic diseases: a case series. *Rheumatology*, 2021;, keab345, <https://doi.org/10.1093/rheumatology/keab345>.
2. Tessedat, I. and Kluger, N. (2021), Ipsilateral herpes zoster after the first dose of BNT162b2 mRNA COVID-19 vaccine. *J Eur Acad Dermatol Venereol*. <https://doi.org/10.1111/jdv.17422>
3. Eid, E., Abdullah, L., Kurban, M. and Abbas, O. (2021), Herpes zoster emergence following mRNA COVID-19 vaccine. *J Med Virol*. <https://doi.org/10.1002/jmv.27036>
4. Walter R, Hartmann K, Fleisch F, Reinhart WH, Kuhn M. Reactivation of herpesvirus infections after vaccinations? *Lancet*. 1999 Mar 6; 353(9155):810. doi: 10.1016/S0140-6736(99)00623-6. PMID: 10459967.
5. Arnold N, Messaoudi I. Herpes zoster and the search for an effective vaccine. *Clin Exp Immunol*. 2017; 187(1): 82-92. doi: 10.1111/cei.12809.