



Disseminated Herpes Zoster in a COVID-19 Patient

Safoura Shakoei¹, Raana Samiei², Sedigheh Hantoushzadeh³ and Shahin Hamzelou^{1*}

1. Department of Dermatology, Imam Khomeini Hospital, Tehran University of Medical Sciences, Tehran, Iran

2. Department of Dermatology, Razi Hospital, Tehran University of Medical Sciences, Tehran, Iran

3. Department of Obstetrics and Gynecology, Imam Khomeini Hospital, Tehran University of Medical Sciences, Tehran, Iran

Abstract

COVID-19 has several different presentations including cutaneous manifestations. In this report, we introduce a case of generalized herpes zoster in a COVID-19 patient. No sign of upper or lower respiratory tract involvement was detected, but due to unexpected dissemination of the lesions, COVID-19 Polymerase Chain Reaction (PCR) was tested and revealed positive. Although the incidence of herpes zoster during COVID-19 infection has been reported previously, none of them was disseminated. Therefore, we recommend that during the pandemic of COVID-19, any unexpected disseminated herpes zoster be considered as a possible case of this disease and be quarantined until the PCR is negative.

Keywords: COVID-19, Herpes zoster, Shingles

* Corresponding author

Shahin Hamzelou, MD

Department of Dermatology, Imam Khomeini Hospital, Tehran University of Medical Sciences, Tehran, Iran

Fax: +98 21 6659 5911

Email: dr.hamzelou@gmail.com

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Introduction

The first case of coronavirus disease 2019 (COVID-19) was diagnosed on December 31, 2019, in China. The clinical presentation of this virus can vary from asymptomatic to respiratory distress, septic shock, and multi-organ failure (1). Since its recognition, a wide spectrum of cutaneous manifestations has been reported, including morbilliform eruptions, papulovesicular rashes, urticaria, petechiae, and livedo reticularis (2). In this report, we introduce a case of generalized herpes zoster in a COVID-19 patient.

Case Presentation

A 57-year-old female attended our dermatology clinic with a complaint of painful and clear vesicles with a dermatomal arrangement on her left lateral chest. She was afebrile in the first visit and had experienced chills seven days before the onset of symptoms. The pain was continuous and stabbing. She was a known case of Multiple Sclerosis (MS) and was receiving Avonex (Interferon beta-1a) weekly for 20 years; no corticosteroid and/or biological therapy was received over the past year. She was prescribed oral Valacyclovir (1 g three times daily) for one week. On the following day, she was admitted to the hospital due to a high fever and dissemination of vesicles on the left arm, forearm, left thigh, and knee (Figure

1). A nasopharyngeal Polymerase Chain Reaction (PCR) test revealed COVID-19 infection. There were no signs of lower respiratory tract involvement; however, in the laboratory examination, she showed leukopenia and lymphopenia. Subsequently, the treatment switched to Intravenous (IV) Acyclovir (750 mg three times daily). Over the second day of IV treatment, the fever stopped, and her clinical status improved after four days. Patient consent for publication is achieved.

Discussion

Herpes zoster (Shingles) is a mucocutaneous viral infection, caused by reactivation of Varicella zoster virus (VZV) from the dorsal root ganglion or cranial nerve after primary varicella infection (3). The reduction in T cell activity due to aging, as well as the use of immunosuppressive drugs, HIV infection, and lymphoma, is a major risk factor for shingles (4). In COVID-19 patients, the reduction in CD4+ and CD8+ T cells, B cells, and natural killer cells results in cellular immune dysregulation, producing a favorable environment for VZV reactivation. In this regard, a review of the literature by Bin Wang *et al* showed nine cases of herpes zoster in patients with COVID-19. They found that most of these patients (56%) had developed zoster lesions on their faces; none of them were generalized (5).

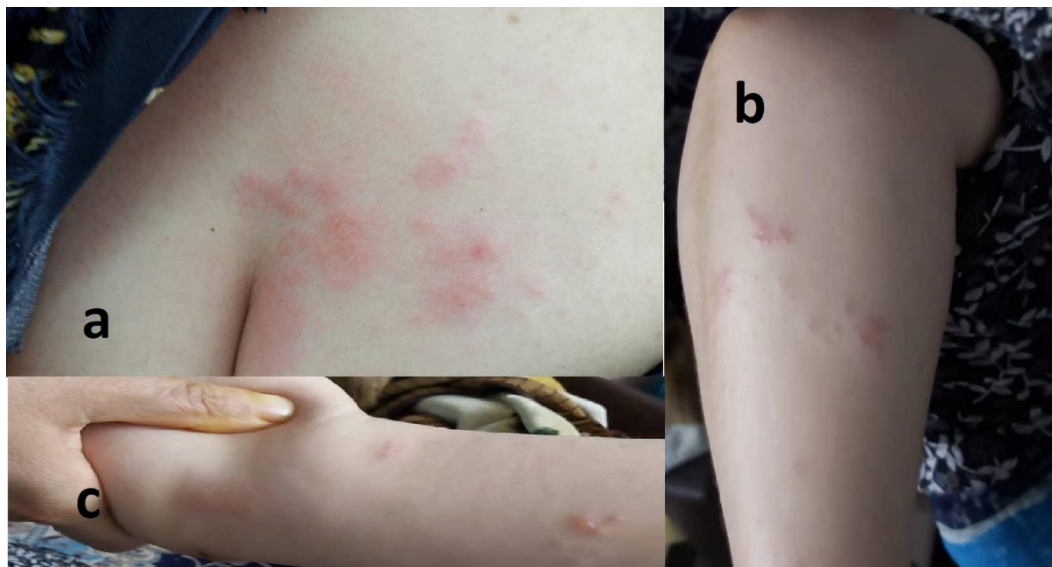


Figure 1. Grouped vesicles disseminated on her chest (a) and left leg (b) and forearm (c) over an erythematous background.

Voisin *et al* have reported a case of recurrent herpes zoster that in the second episode was disseminated in the context of COVID-19 infection, although this patient had received immunosuppressive drug, Anakinra, as an off-label treatment for COVID-19 (6). To the best of our knowledge, our case is the first report of the first episode of disseminated herpes zoster in a COVID-19 patient not receiving immunosuppressive. Beside the COVID-19 infection, other causes of dissemination of zoster lesions may include human immunodeficiency virus infection, chronic infections, primary immunodeficiency syndrome and immunosuppressive therapy that none of them were present in our patient (7). Thus, the presentations of disseminated zoster in an immunocompetent patient during this pandemic should warrant health providers to apply proper preventive methods until COVID-19 is ruled out through follow-ups and laboratory examinations. In our patient, interferon β -1b (IFN β -1b), used by the patient for MS, could be effective in shortening the duration of COVID-19

improvement (8). One of our limitations was that the lesions were not allowed to be biopsied or sampled for Tzank test, but due to dermatomal lesions at the first presentation, accompanied by pain and good response to the Acyclovir treatment, the lesions were considered as herpes zoster.

In conclusion, we reported a 57-year-old female with a history of MS, who developed disseminated herpes zoster and had a positive COVID-19 PCR result. Therefore, in the current pandemic, disseminated herpes zoster, even in patients with mild or no signs of upper or lower respiratory tract symptoms, should be considered as an alarming sign for a subclinical COVID-19 infection.

Conflict of Interest

No conflict of interest

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No thing

References

1. Huang C, Wang Y, Li X, Ren L, Zhao J, Hu Y, et al. Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China. *Lancet* 2020 Feb 15;395(10223):497-506.
2. Sachdeva M, Gianotti R, Shah M, Bradanini L, Tosi D, Veraldi S, et al. Cutaneous manifestations of COVID-19: Report of three cases and a review of literature. *J Dermatol Sci* 2020 May;98(2):75-81.
3. Dayan RR, Peleg R. Herpes zoster - typical and atypical presentations. *Postgrad Med* 2017 Aug;129(6):567-71.
4. Cohen JI. Clinical practice: Herpes zoster. *N Engl J Med* 2013 Jul 18;369(3):255-63.
5. Wang B, Guo S, Yao Y, Li Y, Zhang G. Dermatologists may need to pay more attention to herpes zoster during the pandemic of COVID-19. *Infectious Dis (Lond)* Nov-Dec 2020;52(12):917-8.
6. Voisin O, Deluca N, Mahé A, Lelorc'h E, Hubert S, Ménage E, et al. Disseminated Herpes Zoster During COVID-19. *Infect Dis Clin Pract (Baltim Md)* 2021 Mar;29(2):e109-e10.
7. Singal A, Mehta S, Pandhi D. Herpes zoster with dissemination. *Indian Pediatr* 2006 Apr;43(4):353-6.
8. Rahmani H, Davoudi-Monfared E, Nourian A, Khalili H, Hajizadeh N, Zarei Jalalabadi N, et al. Interferon β -1b in treatment of severe COVID-19: a randomized clinical trial. *Int Immunopharmacol* 2020 Nov;88:106903.