



Recurrent extragenital herpes simplex type 2 occurring in a distal location of the same dermatome

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ABSTRACT

Herpes simplex infection (HSV) is a common infectious disease, which the main clinical manifestations are mucocutaneous infection. Extragenital infections are reported in both type 1 and type 2 of herpes simplex virus. We report a case of a 33-year-old female with recurrent extragenital HSV type 2 infection on the right medial wrist. The patient had history of the previous infection site locating on the right posterior deltoid however both of two sites are the same dermatomal distribution. This report demonstrates the recurrent herpes simplex infection can develop in another area of the dermatomal distribution.

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Introduction

Herpes simplex virus (HSV) belongs to the *Alphaherpesvirinae* which have the linear double-stranded DNA and envelope with glycoprotein spikes on their surfaces [1]. There are two major types: HSV-1 typically causing orolabial infections and HSV-2 commonly causing genital lesions. However, HSV can infect any sites of the body. Herpetic whitlow is the infection of the fingers by direct inoculation, which is one of occupational hazard for medical personnel [2]. We report a healthcare worker who developed extragenital HSV-2 infection on the right wrist with recurrence at a different site in a same dermatome (C8 level).

Case presentation

A 33-year-old Asian female, the housekeeper in the university hospital, visited the primary care in April 2018. She had the localizing painful, pruritic, group of blisters on an erythematous base located on the right posterior deltoid area for two days. The clinical diagnosis was herpes simplex infection, and she received 200 mg of acyclovir taking one tablet five times a day continuously for seven days. Her clinical symptoms were improved.

Fifteen months later (July 2019), she returned to the Dermatology Outpatient Unit in the same problem, the itchy group of vesicles with burning and tingling sensation for two days, except the site of lesion was on her right medial wrist. She had neither

history of others transmitted sexual diseases nor orogenital herpes simplex infection. The physical examination showed a localizing group of vesicles on the erythematous base on the right medial wrist (Fig. 1). The differential diagnosis was herpes simplex infection, friction blister, bullous insect bite reactions, delayed post-burn blisters, and others eczematous dermatitis.

Tzanck test and real-time polymerase chain reaction (PCR) for human herpesvirus (HHV) type 1–6 were done. The result of Tzanck smear with methylene blue staining revealed the multinucleated giant cells (Fig. 2) and the PCR was positive for HHV type 2. The serology test for human immunodeficiency virus test was non-reactive. 200 mg acyclovir five times a day for five days was prescribed with clinical improvement.

Discussion

HSV infection has a broad spectrum of manifestations from asymptomatic to disseminated herpetic infection. In primary diseases, the symptoms primarily occur among the patients in a week after exposure. A prodromal symptom including malaise, fatigue, myalgia, and lymphadenopathy could appear before the presence of mucocutaneous lesions, proceeding by localized pain, tingling and burning sensation. Extra-orogenital HSV infections reported in both types of HSV. HSV-1 commonly found in contact sports, such as wrestling (herpes gladiatorum) and rugby (herpes rugbiorum) [3]. Infection on the fingers (herpetic whitlow) and hands reported much more familiar with HSV-1 than with HSV-2 [4]. However, some reports showed HSV-2 was more frequent than HSV-1 on the hands [5,6]. When focusing on HSV-2 infections, the common extragenital lesions associated buttocks and anal region,

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Fig. 1. Clinical photograph showing group of vesicles on an erythematous patch at medial aspect of the right wrist.

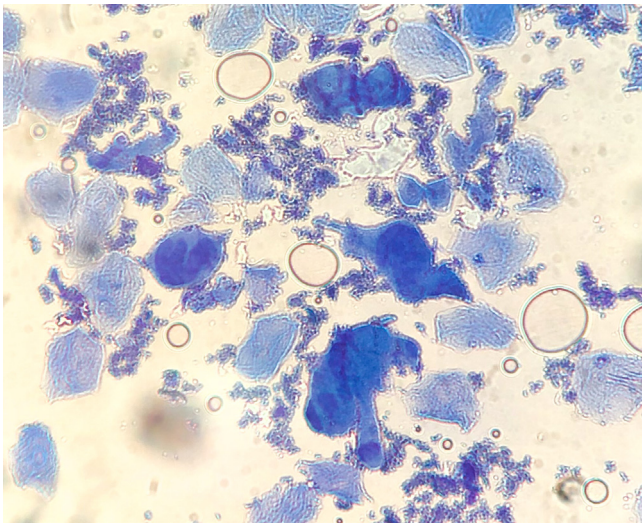


Fig. 2. Tzanck smear with methylene blue showing the multinucleated giant cells.

commonly occurred in females without presenting genital herpes at the same time [6]. This case report, the patient had HSV-2 infection on the right wrist, might be the occupational hazard from housekeeper in the university hospital. Even though she always used the gloves while cleaning the restroom, it is not sufficient to prevent the infection at her the forearms and arms.

For the pathogenesis of HSV-1 infection is initiated from the transmission of direct skin contact, the contaminated saliva or other infected secretion to any sites of the body, in the other hands, the HSV-2 is primarily spread by sexual contact [1]. The virus replicates themselves under the mucocutaneous site of infection leading to the typical presentation, group of blisters on the erythematous base. Later the virus flows retrogradely via the axon to the dorsal root ganglia where it establishes the latency until

reactivation. The recurrent infection process is depending on the host immune status that suppresses viral replication. HSV can be reactivated spontaneously or by a trigger such stress and local tissue damage [1].

The patient had reported that the previous site of infection was on the right posterior deltoid area, and the recurrent site was the right medial wrist. Both of two sites are located within the same distribution of C8 dermatome. There are few reports of zosteriform herpes simplex infection which the HSV reactivated in the same dermatome [7,8]. To best of our knowledge, there is no publication about the distant recurrent disease in the same dermatome.

Beyond the classic clinical manifestations of HSV infection on the mucocutaneous lesions along with extragenital infection, zosteriform herpes simplex, and also the presentation in this case can occur. The clinical variety of HSV should understand the precise diagnosis and proper management.

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Declaration of Competing Interest

The authors state that they have no conflict of interest.

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This case report was approved by the Research Ethics Committee, Faculty of Medicine, Prince of Songkla University (REC.62-295-14-1). The patient signed the informed consents.

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