

## Case Report

## Herpes Zoster in Lower Limb: An Unusual Case

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Herpes zoster is a common disease, which captures especially the old people and individuals with a defect in the immune system. This disease most frequently involves the thoracic and trigeminal dermatomes, while lumbar dermatome involvement occurs rarely and only a few cases of thigh involvement have been reported.

**Case Presentation:** The case that presented here is an unusual clinical manifestation of herpes zoster in right lower limb in a healthy young patient. The patient presented with grouped clusters of papules and vesicles on erythematous based on the lateral, anterior and medial borders on the right thigh, which indicates the involvement of L2-L3 dermatomes. In addition, right groin lymphadenopathy touched in the physical examination. The skin lesions resolved quickly with the administration of oral antiviral therapy for 10 days without complication.

**Conclusion:** Herpes zoster should be considered in young patients with a healthy immune system presenting with unilateral skin rashes includes vesicles in unusual dermatomes, although it is uncommon.

**Keywords:** Shingles; Unusual dermatomes; Young patient; Immunocompetent

**Introduction**

Varicella-Zoster Virus (VZV) is a virus that only affects humans, which primarily results in chickenpox [1]. Herpes zoster or shingles is caused by this virus, which is hidden in the ganglions of posterior column of the spine. After a latency period in dorsal root ganglions, when the immune system does not function properly, it can reactivate and causes herpes zoster [2]. The annual incidence rate of herpes zoster is about 3 to 4 cases per 1000 persons in total population [1]. The seniors and patients with the defective immune system are most susceptible to herpes zoster [2], although can rarely occur in healthy young individuals [3]. Shingles is characterized by burning pain and muscle cramps and then appearing macules, papules and vesicles on an erythematous base distributed on the affected dermatomes. In addition, reactivation of this virus may be accompanied with neurologic complications in the central or peripheral nervous system [4]. Antiviral therapy is effective versus herpes zoster complications, includes edible treatment such as acyclovir, famciclovir or valacyclovir in simple cases and intravenous acyclovir in worse conditions such as ocular or neurologic complications [2].

The aim of this study was the presentation of unusual herpes zoster manifestation in a healthy young patient without any complication.

**Case Presentation**

A 34-year-old man presented to the emergency department with rashes in the right thigh. These skin lesions appeared from the day of referral to the physician. The patient reported prodromal symptoms of pain and muscle cramps in the affected area three days ago. Physical examination showed herpetic clusters of papules and vesicles on an erythematous base distributed on the lateral, anterior and medial aspects of the right thigh (Figure 1A, 1B, 1C). These lesions

had hemorrhagic and crusted in some areas. These rashes were in accordance with the distribution site of L2-L3 dermatomes. Also, there was lymphadenopathy in the right groin. Other examinations were normal. The patient had no complaints from pain, paresis or discomfort in walking in involved limb on the day of referral to the physician. He had a history of chickenpox in twenty years ago. Drug history was negative. Given that herpes zoster was diagnosed, a 10-day course of oral acyclovir (800mg five times a day) was initiated for the patient. The course of the disease was passed without complication and the skin lesions healed during the follow-up period.

**Discussion**

Herpes zoster or shingles is a usual clinical presentation that results from the reactivation of latent varicella-zoster virus within the sensory ganglions in dorsal column of the spine. This disease manifests as unilateral vesicular skin lesions that engage one to three dermatomes that mostly involving the thoracic and trigeminal dermatomes [5]. Almost one out of every three people will present an episode of herpes zoster during their lifetime [6]. Previous investigations evaluated the risk and severity of herpes zoster in relation to several clinical factors [7,8]. Age is a well-known risk factor that increases the incidence and severity of the disease [7]. The highest incidence of disease is reported in persons with ages more than sixty-year-old [9]. Also, according to research conducted by Thomas et al., immunocompromised status caused by different conditions that create immunodeficiency or the intake of immune-suppressive drugs are known to be related to the reactivation of this virus [8]. Acute hyperalgesia is usually the first symptom of the disease that occurs in approximately three-quarters of patients and is the most common symptom of shingles and circumscribed to the involved dermatomes where the skin rash afterward will appear as herpetic clusters of macules, papules,



**Figure 1:** Specified papules and vesicles on erythematous base in the lateral (A), anterior (B) and medial (C) aspects in the right thigh of a patient with herpes zoster. These skin lesions are hemorrhagic and crusted in some areas.

and vesicles on an erythematous base distributed on the affected dermatomes. Then, this skin lesions evolve into pustules and dries with crusting in 7 to 10 days [6]. In the course of viral reactivation, the virus spreads centrally and peripherally from the posterior root ganglions, which produces severe inflammation in the skin, affecting the nerve roots and peripheral nerves. The vesicular skin rashes are often painful and the pain can occur before the rashes begin to appear, or in rare cases may occur without appearing of rashes, termed herpes sine herpette, which is difficult to diagnose [6,10]. Most cases of herpes zoster can be diagnosed clinically, although atypical skin lesions may require more diagnostic evaluations [11]. Despite the self-limiting clinical course of this disease, it often persists and causes neurologic complications such as post-herpetic neuralgia and cranial nerve palsy [7,8], or ocular complications occurring in the ophthalmologic branch distribution of the trigeminal nerve such as keratitis and uveitis. Post-herpetic neuralgia is the most common neurologic complication of herpes zoster, but segmental zoster paresis of limb is a relatively unusual complication that characterized by focal weakness in upper or lower limbs [4]. According to the pathologic investigation was performed by Watson et al., demyelination, axon degeneration, and lymphocyte infiltration can be found in affected nerves, dorsal root ganglions, and dorsal horns in the affected areas [12]. Treatment with antiviral compounds should be started within the first three days of the appearance of skin lesions [13]. The management of uncomplicated herpes zoster includes antiviral therapy associated with analgesic treatment in patients with moderate to severe pain. According to research conducted by Steiner et al. and Hillebrand et al., in this cases, antiviral agents such as acyclovir, famciclovir, and valacyclovir have been used widely to reduce the severity and duration of pain resulting from this disease and to amplify faster healing of skin lesions. In addition, these compounds reduce viral spread and prevent the formation of new lesions and post-herpetic neuralgia. Also, based to research, the risk of disease transmission is reduced with these compounds [2,14]. Acetaminophen or non-steroidal

anti-inflammatory drugs such as ibuprofen can be administered in patients with mild pain, while opioids such as oxycodone, are used for patients with more severe pain associated with herpes zoster [15].

In this case that was introduced here, the patient presented with grouped clusters of papules and vesicles on an erythematous base distributed on the lateral, anterior and medial aspects of right thigh with right groin lymphadenopathy, involving L2-L3 dermatomes. Given that herpes zoster was diagnosed for the patient, a 10-day course of oral acyclovir therapy (800mg five times a day) was initiated. The course of the disease passed uncomplicated and the lesions healed in the follow-up period.

## Conclusion

I presented an uncommon clinical manifestation of herpes zoster in the right thigh of a healthy young patient. Herpes zoster should not be overlooked in young patients with a healthy immune system presenting with unilateral skin rashes includes vesicles in unusual dermatomes.

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