

Atypical presentation of herpes zoster: Zoster sine herpete

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ABSTRACT

Herpes zoster dermatitis is a vesicular eruption occurring in a dermatomal distribution secondary to the reactivation of varicella zoster virus. Prodromal symptoms of paresthesia, hyperesthesia, and pruritus normally occur in the regions where the vesicular eruptions develop, typically preceding the cutaneous eruptions. However, this reactivation can present atypically with few to no cutaneous lesions, referred to as zoster sine herpete.

This case report describes a middle aged, immunocompetent man with zoster sine herpete, who initially presented with a four-day history of severe migratory prodromal pain and hyperesthesia situated in dermatomal distributions. Physical exam revealed two groups of 2–4 mm erythematous papules of the skin on the left posterior neck and left flank. However, the patient's sensory symptoms did not align with the dermatomes of his asymptomatic non-vesicular skin lesions.

Herpes zoster dermatitis may present atypically, with prodromal neuralgia occurring in differing dermatomes from where cutaneous findings occur, if any eruption occurs at all. In such cases, it is important to rely on the patient's history, timeline, and description of symptoms in conjunction with a thorough skin examination to diagnose zoster sine herpete. In addition, if no skin findings are present, serologic testing can be used to make the diagnosis.

Keywords: Herpes zoster, zoster sine herpete, varicella zoster virus, herpetic neuralgia

INTRODUCTION

Herpes zoster dermatitis is a vesicular eruption in a dermatomal distribution due to reactivation of human herpesvirus 3, more commonly known as varicella zoster virus (VZV).¹ The presentation typically includes symptoms of paresthesia and hyperesthesia prior to eruption of cutaneous findings.^{1,2} In rare cases of zoster sine herpete (ZSH), symptoms are followed by minimal to no onset of cutaneous manifestations.^{1,2} This case report describes one such case of ZSH, with migratory prodromal symptoms located in adjacent dermatomes to the eventual cutaneous eruption.

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CASE

A 51-year-old immunocompetent man presented for evaluation of burning and pulsating skin sensation that started on the right trunk and thigh four days before presenting to the clinic. He reported that these symptoms then migrated to the left upper chest. Pain increased with touch and contact with water and was rated at 8/10 in intensity during these activities and 6/10 at rest. Physical examination revealed two 3–4 mm erythematous papules on the left posterior neck and four 2–3 mm papules of similar characteristic on the left flank in a linear distribution (Figure 1, Figure 2), which the patient stated had erupted that morning. The patient denied sensory complaints in the dermatomes containing these lesions. No other cutaneous lesions were identified on full body skin examination. The patient had no history of immunosuppression and denied any exposure to irritants, new agents, or trauma. He had no history of a similar



Figure 1. Left posterior neck.



Figure 2. Left flank.

skin rash, and had not received the zoster vaccine as an adult. Prior to presenting to our clinic, the patient had started valacyclovir 1000 mg three times daily given by an outside provider without relief.

For treatment, the patient was continued on valacyclovir 1000 mg three times daily for 10 days for viral replication suppression, with the addition of gabapentin 600 mg nightly for neuropathic pain relief. In addition, a one-month oral prednisone taper for inflammatory control was prescribed for further symptomatic relief. One month later, the patient still reported persistent, but slightly improved pain in the original dermatomal distribution; however, the patient reported he did not take gabapentin as prescribed. His original skin lesions had resolved, with no subsequent cutaneous eruptions.

DISCUSSION

Zoster sine herpete is an atypical presentation of herpes zoster, often underreported and underdiagnosed due to its potential for an initially confusing clinical presentation.^{2,3} When prodromal symptoms are not followed by cutaneous eruptions, or, in this case, when non-vesicular lesions occur in dermatomes without sensory symptoms, making the correct diagnosis of ZSH can be challenging.³ It is important to rely on patient history, timeline, and description of symptoms in conjunction with a thorough full body skin examination to diagnose ZSH. In addition, serum or cerebrospinal fluid testing for VZV DNA, IgG, and IgM may

be necessary to make the diagnosis in some cases.³ Although other etiologies of pain must be properly investigated dependent on its location, not including ZSH in the differential diagnosis can lead to excessive diagnostic testing, delayed treatment, and increased morbidity for the patient.³ Continuous reactivation of VZV without proper antiviral treatment can eventually lead to fatal sequelae, such as myelitis, encephalitis, and other cerebrovascular pathology.^{2,3,4}

Another important aspect of this disease is the reported increase in long term complications in patients with zoster sine herpete, with the most notable being post-herpetic neuralgia. A study by Drago et al.⁵ reported an increased dosage and duration of pain medication in patients with zoster sine herpete when compared to patients with herpes zoster, indicating increased complications with post-herpetic neuralgia. The etiology of this clinical presentation is not fully understood, but a commonly accepted theory is that viral replication occurs more actively in the sensory ganglia, with decreased spread to peripheral nerves and cutaneous tissues, causing concentrated inflammation within the neural tissue without reactions of the skin.⁵ It has also been found that patients with zoster sine herpete have a lowered specific cellular immunity when studied with a purified protein derivative skin test, suggesting that the absence of rash may be related to a decreased immune response to antigens in the cutaneous tissues.⁶ This phenomenon

highlights the importance of prompt recognition and timely initiation of appropriate medication to improve long-term outcomes for these patients.

CONCLUSION

Patients with zoster sine herpete are likely to present to non-dermatologists for initial evaluation of their symptoms, highlighting the importance for all clinicians to know about this atypical presentation of herpes zoster. Our patient did not undergo any confirmatory cutaneous or serologic studies, but his positive response to antiviral therapy without progression of disease supports the diagnosis of ZSH. Although the condition is uncommon and seldom reported in the literature, failing to include ZSH in the differential diagnosis can result in delayed treatment and poor outcomes for patients.

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