



PERIANAL HERPES ZOSTER WITH DIABETES MELLITUS: A RARE CASE REPORT

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ABSTRACT

Herpes zoster (HZ) is caused by the reactivation of latent varicella-zoster virus and most commonly affects the thoracic and trigeminal dermatomes. Involvement of the sacral dermatomes, particularly with perianal extension, is rare and can mimic various anorectal disorders, leading to delayed diagnosis in elderly patients with comorbidities. In this case report, herpes zoster in the perianal area significantly disrupted the patient's daily activities, requiring prompt diagnosis and management. A 78-year-old female presented with blisters accompanied by pain, burning, and tingling in the left buttock area extending to the anus. The dermatologic findings included multiple vesicles to bullae on an erythematous base containing clear fluid in a zosteriform arrangement, discrete to confluent, crusted form. A Tzanck test revealed multinucleated giant cells. The primary therapy consisted of oral acyclovir and mupirocin ointment. Herpes zoster involving the sacral to perianal dermatomes (S2-S4) can cause various functional complications, including neuritis characterized by sensory and motor deficits, which can affect the patient's daily activities. Antiviral treatment within the first 72 hours can help minimize complications. Pain should be controlled to prevent worsening the patient's quality of life. Early diagnosis and treatment, along with vaccination, can reduce morbidity and prevent complications, especially disruption of daily activities in patients with perianal HZ.

Keywords: daily activities; dermatome; perianal herpes zoster; reactivation; varicella-zoster virus

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INTRODUCTION

Herpes zoster (HZ) is caused by the reactivation of the varicella-zoster virus (VZV), which remains latent in sensory nerve ganglia after varicella or chickenpox infection (Baik et al., 2025; Moustafa et al., 2025). The disease usually manifests as a painful unilateral vesicular rash limited to a specific dermatome, most commonly the thoracic or lumbar region, but may also involve the sacral dermatomes (S2-S4) (Corona et al., 2025; Ku et al., 2025). Epidemiologically, the prevalence of HZ ranges from 5.2–10.9 cases per 1,000 people per year. The incidence of HZ increases significantly with age, particularly in individuals over 50 years of age, suggesting a decline in cellular immunity as a key factor in VZV reactivation (Ku et al., 2025; Son et al., 2025). Cases of HZ in the sacral region are rare, especially if it extends to the perianal area, so it can be misdiagnosed (Abdelgabar et al., 2025; Furtado-pessoa-de-mendonca et al., 2025; Kalantzi et al., 2024; Waber & Rasyidi, 2025). Misdiagnosis of HZ in the early stages can increase morbidity (Lee et al., 2021; Xi et al., 2025). One differential diagnosis for HZ in this region is genital herpes simplex. Approximately 3% of patients with herpes simplex are also VZV positive (Tung et al., 2020). Early identification of HZ and timely treatment with antivirals such as acyclovir can reduce complications, duration, and severity of symptoms (Han et al., 2025; Moustafa et al., 2025). The occurrence of HZ in this region can disrupt the patient's daily activities, especially sitting, sleeping, urinating, and defecating, so this case report aims to help early recognition of perianal HZ, in order to reduce morbidity and prevent further complications.

METHOD

This study consists of a case report obtained through history taking, physical examination, including dermatological examination, and supporting laboratory tests. The patient, a single patient, was selected because she had herpes zoster in a rare area. The collected data were analyzed descriptively and compared with existing literature.

RESULT

A 78-year-old woman presented to the dermatology and venereal disease clinic at a hospital after being referred from a community health center with a diagnosis of genital herpes simplex. Her primary complaint was blisters filled with clear fluid clustered on the left buttock area for the past two days. Initially, the patient felt unwell and had pain in the left buttock area for the past five days. Two days later, a reddish spot appeared in the area, which then turned into blisters and was accompanied by fever. These symptoms were accompanied by pain, burning, and tingling sensations that interfered with activities such as sitting and defecating. The patient had no previous history of similar symptoms, but had chickenpox at the age of 10 and also had a history of uncontrolled diabetes mellitus (DM). There was no history of sexual intercourse in the past ten years, and no one in the patient's neighborhood had experienced similar symptoms. Vital signs showed a temperature of 38.5°C. The patient's pain was measured using a visual analog scale (VAS) and scored 9. Dermatologically, the left sacral region, extending perianally, was found in a unilateral distribution. Multiple vesicles and bullae with an erythematous base containing clear fluid were found in a discrete, partially confluent zosteriform arrangement (Figure 1). Laboratory examinations performed a Tzanck test (Figure 2). The patient was diagnosed with perianal herpes zoster, with a differential diagnosis of genital herpes simplex.

The primary treatment consisted of acyclovir 800 mg tablets orally five times daily for 7 days, plus mupirocin ointment applied to the lesions. The patient was also given 0.9% sodium chloride (NaCl 0.9%) compresses and symptomatic therapy with oral paracetamol and gabapentin. The patient was then educated on the importance of maintaining lesion hygiene, medication adherence (especially acyclovir), monitoring for signs of secondary infection in the lesions, and advised to consult an internist regarding the management of DM.



Figure 1. Herpetiform vesicular lesions in the left sacral region extending to the perianal area are seen in the red circle in the image.

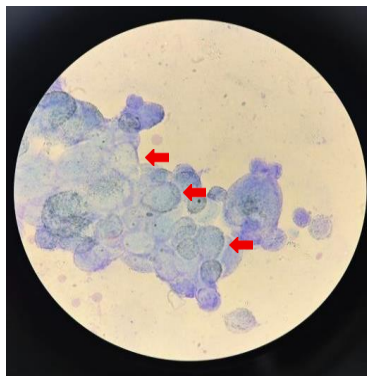


Figure 2. Multinucleated giant cells are indicated by red arrow symbols ➡ in the microscope image of the Tzanck test.

DISCUSSION

Herpes zoster (HZ) is a neurocutaneous disease manifested by grouped vesicular eruptions on an erythematous base accompanied by unilateral radicular pain, generally in one dermatome due to reactivation of endogenous latent VZV infection in the neurons of the dorsal root sensory ganglion, cranial nerve ganglion, or autonomic nerve ganglion (Menaldi et al., 2021). This disease most often affects the thoracic and lumbar dermatomes, but sacral involvement is relatively rare, only around 4–8% of cases (Alsulaiman et al., 2025). Several factors can influence HZ. Age over 50 significantly affects the severity of HZ, primarily due to decreased immune function, making them more susceptible to VZV infection (Luan et al., 2024; Senol et al., 2025; Terheyden et al., 2023). Besides aging, decreased immune function can also be caused by the human immunodeficiency virus (HIV), immunosuppressive therapy, and cancer. Women are more susceptible to these conditions (Ramdhani et al., 2024). Uncontrolled comorbid diabetes mellitus (DM) can also significantly worsen HZ and increase the risk of related complications. One key mechanism is impaired cellular immunity, which reduces the body's ability to respond to viral infections, making individuals more susceptible to severe HZ manifestations (Cersosimo et al., 2023; Strezova et al., 2025; Yang et al., 2025). Poor glycemic control in uncontrolled diabetes creates a favorable environment for bacterial superinfection, particularly in moist areas such as the sacral area extending to the perianal region, as in this case. Superinfection exacerbates the inflammatory response, delays wound healing, and prolongs the recovery process for HZ lesions and bacterial infections (Adjei et al., 2024; Luan et al., 2024). HZ-related neuropathic pain is more prominent in DM patients due to the presence of diabetic neuropathy (Cersosimo et al., 2023; Yang et al., 2025). The interaction between uncontrolled DM, neuropathic pain, and HZ creates an unbroken cycle, where ineffective pain management and prolonged discomfort affect the patient's glycemic control, resulting in clinical deterioration (Adjei et al., 2024). In this case, a 78-year-old female patient complained of pain primarily around the lesion, with a VAS score of 9. She also had a history of uncontrolled diabetes. She was suspected of having HZ in the sacral region extending perianally. She had no previous similar complaints and had had chickenpox at the age of 10.

HZ cases, especially those involving the sacral to perianal dermatomes (S2-S4), can experience various functional complications, namely neuritis characterized by sensory and motor deficits affecting the bladder and bowel (Alsulaiman et al., 2025). This has the potential to cause urinary retention, fecal incontinence, or changes in bowel patterns, so signs of urinary tract obstruction or changes in bowel patterns should be monitored (Yu & Lu, 2025; Yuan et al., 2025). Bladder and bowel dysfunction are caused by the virus's inflammatory effects on the autonomic ganglia. VZV infection can potentially cause neuritis, affecting the reflex arcs responsible for bladder and bowel function. Neurogenic changes can occur when the virus causes degeneration of these neural pathways (Au et al., 2020; Nazario-perez et al., 2025). Furthermore, autonomic disturbances due to HZ can lead to changes in perineal sensation. These changes in sensation may be caused by the virus's direct effect on the region's sensory pathways or by inflammation affecting the surrounding

neurovascular structures (Lameiras et al., 2022). The occurrence of HZ in an atypical region in this patient poses a risk of misdiagnosis, particularly for genital herpes simplex. Herpes simplex is a sexually transmitted infection (STI) caused by herpes simplex virus (HSV)-1 or HSV-2, which manifests as vesicles on the genitals, perineum, perianal region, and buttocks. The classic presentation is malaise, fever, or local adenopathy (Tung et al., 2020). In addition to clinical findings, in this case, a Tzanck test was performed to support the diagnosis. This cytological test is simple, rapid, non-invasive, and cost-effective. However, this test is not specific for herpes alone; it also diagnoses pemphigus, Darier's disease, Hailey–Hailey disease, and bullous impetigo. Histologically, HSV or VZV infection is characterized by intraepidermal vesicles with intercellular edema, acantholytic cells, and multinucleated giant cells, with intense mixed inflammatory cells in the underlying dermis (Yamamoto & Aoyama, 2020). The patient in this case experienced disruptions in daily activities, particularly sitting, urinating, and defecating, due to pain in the lesion area, which can reduce the patient's quality of life. This aligns with previous research that found a dermatology life quality index (DLQI) score of 15.5 in 106 HZ patients, indicating severe impact on the patient's quality of life (Pu et al., 2025). The patient had no history of sexual intercourse in the past 10 years, thus denying HSV. Investigations revealed multinucleated giant cells, which supports the diagnosis of HZ, although it is not specific.

Antiviral treatment should be initiated within 72 hours of rash onset. Early intervention is crucial to reduce viral replication, shorten the clinical course, and minimize complications. Antivirals inhibit VZV replication, thereby relieving acute symptoms, providing analgesia, and preventing the development of long-term complications (Cui et al., 2021; Kalantzi et al., 2024; Lee et al., 2021). Acyclovir is prescribed at a dose of 800 mg five times daily for 7 days (Cui et al., 2021). When antivirals are not administered promptly, patients are at higher risk of experiencing prolonged and worsening pain. The elderly population is more vulnerable to significantly reduced quality of life and functional status (Karim et al., 2024). Early intervention with gabapentin has been shown to successfully control neuropathic pain in HZ (Lee et al., 2021). The patient in this case was given primary therapy of acyclovir 800 mg tablets orally five times daily for 7 days. The patient's pain was controlled with oral paracetamol and gabapentin.

The risk of secondary bacterial infections is very high, primarily due to factors such as moisture, fecal contamination, and friction. These conditions create an environment conducive to bacterial colonization, potentially causing significant morbidity for patients, especially the elderly. Studies have shown that elderly patients are at increased risk of secondary bacterial infections due to impaired self-care and hygiene in managing HZ lesions. Scratching or inflammation can trigger opportunistic bacterial infections, increasing the risk of blisters and worsening vesicular lesions (Baik et al., 2025). Topical antibiotics can reduce bacterial colonization and prevent secondary infections in the perianal area (Moustafa et al., 2025). 0.9% sodium chloride compress and mupirocin ointment were given to this patient to prevent secondary infection and scratching of the lesion which could worsen it.

People over 50 years of age are the target for HZ vaccination, as they are at higher risk of complications such as postherpetic neuralgia (PHN) after HZ (Chen et al., 2025), which is a chronic neuropathic pain condition that lasts 3 months or more after the onset of shingles (Rohmayanti & Kurniawan, 2023). Studies show that as many as 20.6% of patients over the age of 50 experience complications such as PHN. This risk increases in patients over the age of 70. This is due to damage to nerve pathways, disruption of pain signals and modulation mechanisms, and comorbidities that worsen the pain response (Pannerselvam et al., 2022). Vaccination is an important preventive strategy that not only reduces the incidence of HZ, but also complications such as PHN (Strezova et al., 2025; Tseng et al., 2022). Furthermore, patients should be educated about proper hygiene, especially since elderly patients may have limitations in self-care due to physical decline or cognitive impairment. Involving caregivers or healthcare providers in effective hygiene techniques,

including gentle lesion cleaning and regular dressing changes, can significantly impact patient outcomes. This education is crucial for minimizing the risk of infection and empowering patients, enabling them to care for themselves more effectively (Corona et al., 2025). Due to the complexity of HZ cases in this region, a multidisciplinary approach is required, especially in patients with comorbid DM (Senol et al., 2025). This approach not only supports lesion resolution, but also enhances recurrence prevention through comprehensive care.

CONCLUSION

Sacral herpes zoster that spreads to the perianal area can be misdiagnosed as genital herpes simplex because it rarely occurs in that area. Furthermore, early diagnosis and treatment can minimize the decline in quality of life due to disruption of daily activities and prevent complications such as PHN and secondary infections.

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