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Uncovering Uncommon Presentations of Herpes Zoster: A Case Series Analysis

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ABSTRACT:

Introduction: Herpes zoster is characterized by the appearance of clustered blistering lesions in a specific area of the skin. While this is the typical presentation, there are also rare cases that involve multiple dermatomes or affect internal organs. In this report, we discuss three uncommon cases of herpes zoster with atypical presentations.
Case series: The first case was a patient with herpes zoster oticus, also known as Ramsay Hunt syndrome, which manifested with facial nerve palsy. The second case exhibited vesicles in two separate dermatomes on both sides of the body, a condition referred to as herpes zoster duplex bilateralis. The third case presented with painful blisters in the sacral dermatome, an unusual location, along with urinary symptoms.
Conclusion: People of elderly age and immunocompromised persons are at risk of developing such atypical manifestations of herpes zoster It is crucial for clinicians to recognize these atypical manifestations of herpes zoster and promptly initiate treatment to prevent potential complications and morbidity.

Keywords: herpes zoster, immunosuppressed, tzanck smear.

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1. Introduction

Herpes Zoster, also known as shingles, is a viral infection caused by the reactivation of the varicella-zoster virus in the dorsal ganglia. It typically presents as a painful vesicular skin eruption along a single dermatome, preceded by neuropathic pain.
In our case series, we explore three rare and unusual presentations of Herpes Zoster . These included herpes zoster oticus with Ramsay Hunt Syndrome, herpes zoster multiplex, and herpes zoster affecting the sacral dermatome.

CASE 1: CASE OF HERPES ZOSTER OTICUS PRESENTING WITH FACIAL NERVE WEAKNESS (RAMSAY HUNT SYNDROME)
An elderly 75-year-old man presented to emergency room, with history of sudden onset right-sided ear pain, followed by the development of right-sided facial weakness for 2 days. He was a case of diabetes mellitus and hypertension on treatment. Upon examination, grouped vesicular lesions with erosions were observed on the right concha and pinna along with housebrackmann grade four right sided facial nerve palsy(Figure -1,2)Diagnosis of Ramsay Hunt Syndrome was confirmed through a Tzanck smear, which showed the presence of multinucleated giant cells. Otoscopic and audiometric examination were normal.Ophthalmologist opinion was taken and patient was advised lubrication and patch occlusion of right eyes to prevent corneal ulcer development. Treatment involved administration of seven day course of acyclovir, oral methylprednisolone, and analgesics, leading to significant improvement in pain, resolution of lesions, and improvement in facial weakness with physiotherapy.

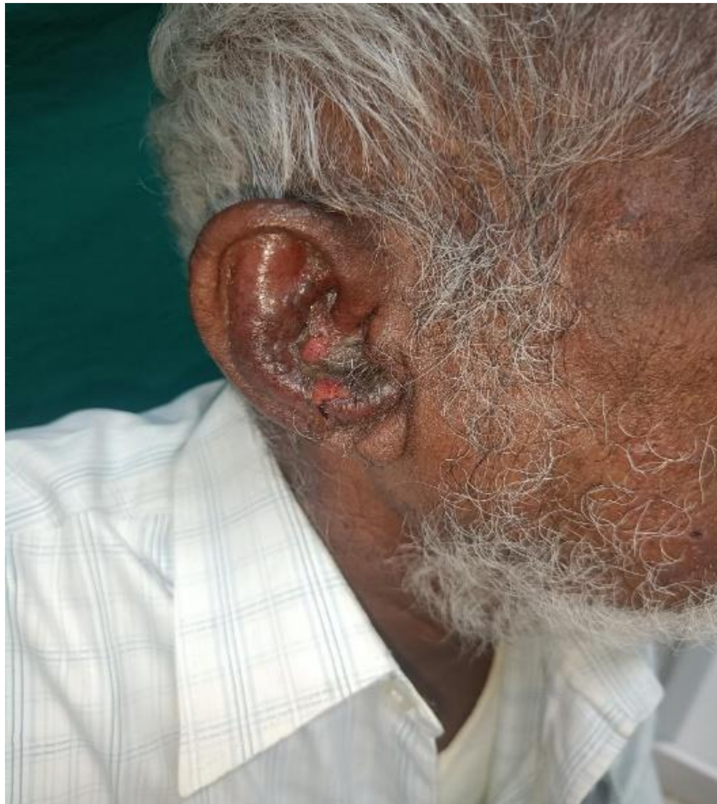


Figure 1.grouped vesicles and erosions in right concha,external ear.

Figure 2.right sided facial nerve palsy

CASE 2- HERPES ZOSTER DUPLEX BILATERALIS: A RARE CASE (Figure 3)

Our second patient was a 65-year-old female with a history of diabetes mellitus presented to the dermatology outpatient department with complaints of fluid-filled lesions and severe pain over her back and left elbows. Upon examination, grouped papules were observed on an erythematous base extending from the left upper back (T1) to the left elbow (T1) and right lower back (L3). (Figure 3)The patient was found to have herpes zoster duplex bilateralis, a rare and atypical presentation of the condition.

A Tzanck smear from the fluid-filled vesicles revealed multinucleated giant cells, confirming the diagnosis. Baseline tests including a complete blood count, liver function, and renal function were within normal limits. Viral markers for HIV, hepatitis B and C were non-reactive. Due to the patient's immunocompromised status, she was started on a seven-day course of oral acyclovir for antiviral treatment, along with amitriptyline for pain management and saline soaks, topical antibiotics for skin lesions.

After one week of treatment, follow-up examination showed crusting of the lesions. The patient was continued on amitriptyline and was also prescribed topical gabapentin and lidocaine gel for post-herpetic neuralgia.

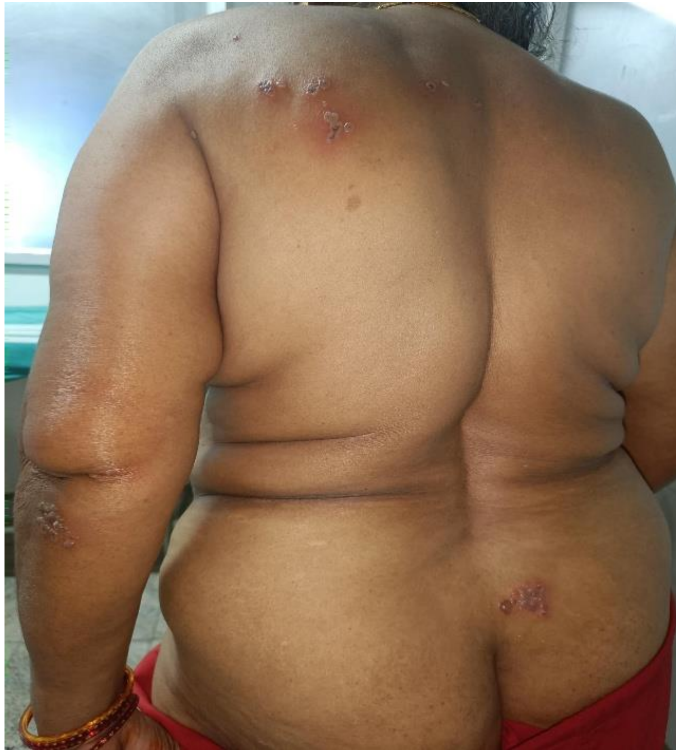


Figure 3.herpes zoster duplex bilateralis involving left upper back and left elbow (T1),right lower back(L3)

Managing Herpes Zoster in the Sacral Dermatome

A 63-year-old female presented to the dermatology outpatient department with severe pain in the buttock region and difficulty in sitting for 1 day. She had a history of diabetes mellitus and was currently on treatment. Upon cutaneous examination, grouped vesicular lesions were observed in the perianal, left gluteal region, and along the sacral S3, S4, and S5 dermatomes.(Figure 4). The patient also complained of painful urination and constipation.

A clinical diagnosis of herpes zoster localized to the sacral dermatomes S3-S5 was made, and the patient was admitted to the hospital. A bedside tzanck test revealed multinucleated giant cells, confirming the diagnosis. Laboratory investigations, including a complete blood count, biochemistry panel, and viral markers such as HIV, hepatitis B, and hepatitis C, all returned normal results. Urine analysis and urine culture were also within normal limits.

The patient was initiated on oral acyclovir 800mg five times a day, along with analgesics and pregabalin. Within 2 days of starting acyclovir, the patient reported an improvement in symptoms of voiding difficulty and constipation. However, the vesicles took longer to rupture, and crusting began on the twelfth day of treatment. The patient completed a 15-day course of acyclovir and continued on pregabalin for further management.

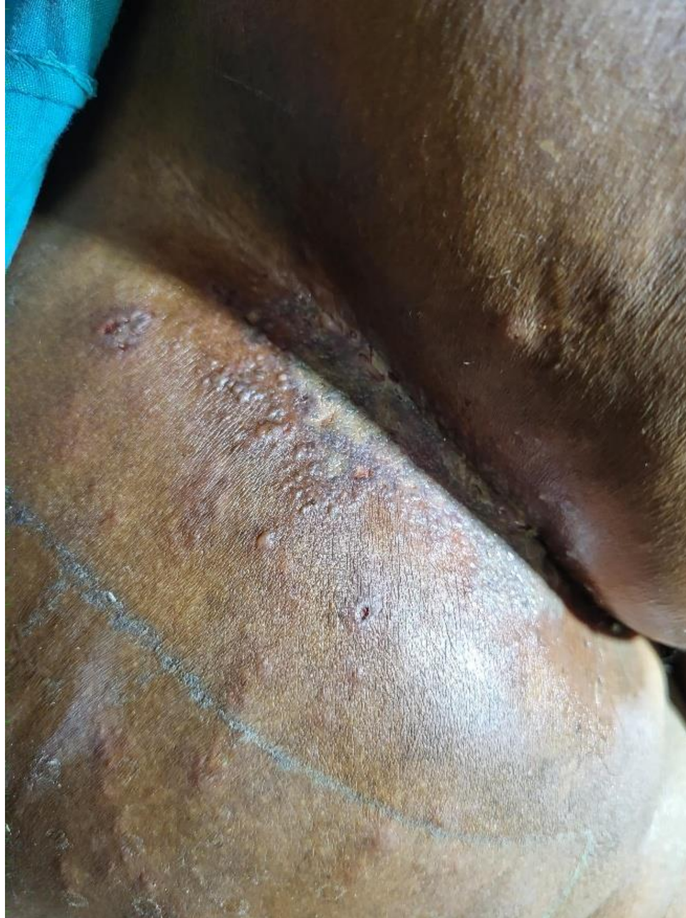


Figure 4.grouped vesicles in sacral dermatome

2. Discussion

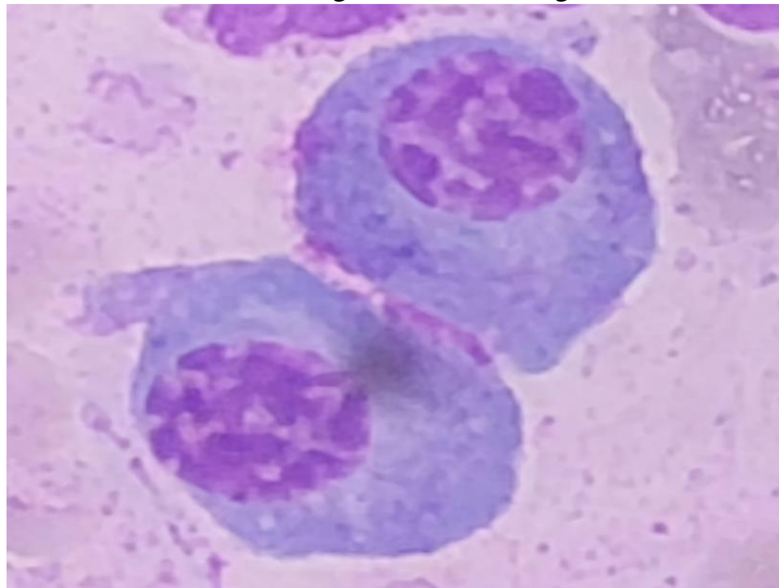
Herpes zoster, commonly known as shingles typically presents with prodromal pain followed by a vesicular eruption in a single dermatome. However, atypical presentations of this viral infection have been reported, including multidermatomal herpes zoster, herpes zoster duplex bilateralis, and herpes zoster involving internal organs, disseminated herpes zoster, zoster sine herpete, herpes zoster ophthalmicus and oticus. (Camila K Janniger, MD,2021)
Patients with impaired cell-mediated immunity, including those with conditions like diabetes mellitus and HIV, recipients of organ transplant and malignancy are at a higher risk of developing severe and prolonged herpes zoster. (Dayan RR and Peleg R.,2017);(Mappamasing et al,2023)
Among the atypical presentations of herpes zoster, Ramsay Hunt syndrome stands out as a distinct entity. This syndrome, also known as herpes zoster oticus, is characterized by facial nerve inflammation and presents with a triad of symptoms, including facial palsy, otalgia, and vesicles near the ear. The lesions also involve affected side of face, palate, tongue and scalp. Patients can report with dry eyes, tinnitus, altered taste sensation, dysarthria and hyperacusis due to facial nerve involvement. There can be involvement of other cranial nerves V,VI,VIII,IX,X. (Crouch AE et al,2024).There is a condition called zoster sine herpete where patients develop severe pain, facial nerve palsy in the absence of vesicular lesions. Our patient (case-1) had all three signs of triad of herpes zoster oticus.
Herpes zoster duplex bilateralis is identified by the involvement of two non contiguous dermatomes on both sides. This variation is documented to occur in less than 0.5 percent of

cases. (Gahalaut P and Chauhan S,2012) The possible cause may be the random activation of the varicella zoster virus in two non-contiguous dermatomes. Other factors that could trigger this condition include local trauma or spread along the spinal cord. (Yi, A. and Chernev, I,2015).This particular form of herpes zoster is most prevalent among the elderly, Asian women, and individuals with compromised immune systems. Our patient (case-2) was also an elderly female with long standing diabetes mellitus had involvement of T3, L3 dermatome on both sides of body.

Sacral herpes zoster cases are relatively rare, accounting for only 4-8% of all cases. These cases have been reported in elderly and immunocompromised individuals as well. When the varicella zoster virus affects the sacral dermatome, patients may experience difficulties with urination, constipation, or bowel incontinence.(Chiriac A et al,2019) .Urinary problems triggered by the virus may stem from cystitis, neuritis, or myelitis. (Hur J,2015).Instances of acute urinary retention requiring bladder catheterization have been documented in medical literature(Chen et al,2002).Chronic herpes simplex could be considered as a potential diagnostic option for herpes zoster in the sacral area,where lesions tend to recur,are less painful,and resolve sooner.Our patient had prodromal symptoms of pain,dermatomal distribution of lesions and longer recovery period which are features pointing towards herpes zoster

All individuals involved in these cases had immune system suppression due to conditions like diabetes mellitus and were part of the older age group, which predisposed them to atypical manifestations. The first and third cases experienced complications and needed hospitalization. Multinucleated giant cells were observed in Tzanck smear tests from these patients.(Figure 5) Post-herpetic neuralgia was common among all cases.

Figure 5.Tzanck smear showing multinucleated giant cells



3. Conclusion

Our case series sheds light on the diverse and atypical presentations of herpes zoster, emphasizing the importance of early recognition and prompt treatment. Clinicians should be vigilant for these uncommon manifestations of herpes zoster to ensure optimal patient outcomes. By sharing insights from our cases, we aim to contribute to a better understanding of this viral infection and its varied clinical presentations. We also like to stress the importance

of bedside tzanck smear investigation which has helped in our patients for earlier initiation of treatment.

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