

Case Report

Herpes zoster on the forehead masquerading as an abscess complication to look out for: a case report

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ABSTRACT

Herpes zoster or shingles is caused by the reactivation of latent varicella zoster virus (VZV) infection within the sensory ganglia. Primary VZV infection results in varicella (chickenpox) usually in childhood, characterized by vesicular lesions on the face, trunk, and extremities. Although herpes zoster can occur at any age, it is mainly a disease of adults over age 50 and/or immunocompromised individuals. Complications of herpes zoster include post herpetic neuralgia, herpes zoster ophthalmic us and less commonly acute retinal necrosis, aseptic meningitis, and encephalitis. Here we present the case of a 51-year-old female patient with Herpes Zoster infection involving the dermatome on the forehead, initially misdiagnosed, to alert clinicians to create awareness and minimize misdiagnosis of other patients with similar cases. It is unusual to find patients presenting with infection involving the dermatome of the forehead.

Keywords: Adult, Complication, Female, Herpes zoster, Varicella-zoster virus

INTRODUCTION

Herpes zoster is a viral disease results from reactivation of varicella zoster virus (VZV) within the sensory ganglia. It is characterized by painful vesicular rashes typically in a unilateral dermatomal distribution. The skin lesions begin as papules, then vesicles which become pustular or hemorrhagic in three to four days and crust over by seven to 10 days after which it is not considered infectious.¹ In some cases, continuing pain beyond four months develop, called post herpetic neuralgia (PHN). Rashes may occur widely for immunocompromised people.¹ If the rash involves the eye, it may result in loss of vision.^{2,3} The incidence of herpes zoster is influenced by the immune status of the host.⁴ Herpes zoster infected people can spread VZV to persons who have not had

varicella so far and have not yet received the varicella vaccine.⁵ Rash and acute neuritis are the usual clinical symptoms of herpes zoster. Most commonly involved sites of herpes zoster are thoracic and lumbar dermatomes, though any dermatome can be affected. Herpes zoster is diagnosed usually based on the clinical presentations such as unilateral, usually painful, vesicular eruption with a well-defined dermatomal distribution. Sometimes laboratory confirmation is indicated, when the diagnosis is uncertain.^{6,7}

When Herpes Zoster involves the dermatome on the forehead it is important to rule out Herpes zoster ophthalmicus (HZO), a serious sight-threatening condition. Reactivation of varicella zoster virus (VZV) within the trigeminal ganglion has been linked to HZO.

Affected patients can develop symptoms like clinical conjunctivitis, episcleritis, keratitis, and/or iritis. Involvement of herpes zoster on the ophthalmic division of the fifth cranial nerve is defined as HZO.⁸ Various surveys show that incidence rates of HZO complicating herpes zoster is 8 to 20 percent.^{8,9} Vesicular lesions on the side or tip of the nose correlate highly with eye involvement¹⁰ and it indicates involvement of the nasociliary branch of the trigeminal nerve.¹¹ Herpes zoster is a commonly reported case in the Emergency and Primary Health Care. In this paper, we present an unusual case of varicella zoster with painful blister on the forehead misdiagnosed as an abscess and its successful treatment with proper follow up recommendations.

CASE REPORT

A 51-year-old female patient reported to the Emergency Clinic in the Primary Health Care Centre with a painful skin lesion which developed on her forehead two days ago. It was a blister initially. The patient works at a beauty salon. She broke open the blister thinking it was acne but when the pain increased she consulted a physician in a private clinic, where it was diagnosed as an abscess and was prescribed Augmentin tablets and Fucidic acid cream, but the symptoms aggravated, and she visited the Emergency clinic in the Health Centre 2 days later.

Upon examination, she felt pain along with a burning sensation on her forehead and she had vesicles spreading over the left side of the forehead, scalp, and left upper eye lid. She felt no pain in her eyes and the eye examination was normal. There were no lesions on the tip of the nose. A diagnosis of Herpes zoster involving the dermatome of the forehead was made and valacyclovir 1 gram three times daily for seven days, acyclovir cream, calamine lotion, and analgesics was prescribed. She was referred to the ophthalmologist for urgent consultation to rule out Herpes zoster ophthalmicus. The ophthalmologist examined her and reported that the eye was not involved. She was discharged home with instructions to avoid contact with premature or low birth weight infants, immunocompromised individuals and pregnant women.

She visited the Tertiary Care Hospital Emergency department after 2 days with persistent pain, she was examined, and Herpes Zoster was confirmed, the ophthalmologist was again consulted and Herpes Zoster Ophthalmicus was ruled out and the patient was discharged home with advice to make sure that she took the antivirals.

She visited the Emergency Department again with dizziness, headache, photophobia and nausea after 4 days. She was examined for meningeal signs and CT scan Head was done to rule out meningoencephalitis. The Meningeal signs was negative, and the CT scan Head was normal. The patient was discharged home with instructions to continue the same medications.

Upon follow up 10 weeks later the patient reported that she was asymptomatic, and she only had hyper pigmented scars after the skin lesions healed on the forehead.

DISCUSSION

The lifetime risk of varicella zoster for patients who have had chicken pox is between 10-20%. The thoracic and lumbar dermatomes involve most of the HZ infections; however, nearly 13% of patients had infections on any of the three branches of the trigeminal nerve.¹² The most commonly affected nerve branch is the ophthalmic branch, and, in this case, the forehead dermatome is involved.

Varicella zoster virus (VZV) reactivation may occur spontaneously in immunocompromised people. Old age, mental stress, physical stress, trauma, malignancy, radiation therapy and immunocompromised states including transplant recipients, immunomodulatory therapy and HIV infection are predisposing factors for VZV reactivation.¹³⁻¹⁵ Out of 1000 immunocompromised cases, 1.5-3 cases had herpes zoster infection (HZI); in elderly patients over 75 years this rate increases to 10 cases per 1,000.¹⁶ In our case, the patient's age may be the predisposing factor. The patient also informed that she experienced stress at work, which could be another predisposing factor.

Direct contact with herpes zoster lesions can spread the virus. The lesions are considered infectious until they dry and crust over. Airborne transmission of VZV from individuals with localized herpes zoster also occurs.¹⁷ Progress of the HZ is mainly through three phases: prodromal phase, active phase (acute phase) and chronic phase.¹⁸ During the first phase, the patient experiences a burning and tingling sensation occurring in the respective dermatome. These symptoms may persist for few days before the active mucocutaneous lesion develops. The active phase is followed by the appearance of the rash which is seldom accompanied by systemic symptoms such as fever, malaise, Headache.¹⁹ The chronic phase is only seen in about 10% of all subjects with HZ, called post-herpetic neuralgia (PHN).²⁰ During the active or 'eruptive' phase our patient mingled with her co-workers as she was not aware of the risk of infection to co-workers and her customers, so patient was recommended to take leave from work.

Although PHN is the most common complication of HZ, other complications include herpes zoster ophthalmic and less commonly acute retinal necrosis, aseptic meningitis, and encephalitis.²¹ In our case, patient's initial phase started by the appearance of characteristic skin rash on her forehead, followed by the sensations of burning pain, itching, hyperesthesia. The pain was most severe in the prodromal stage and in the active phase. The characteristic skin rash progressed to vesicles within three to seven days which dried and crusted and cleared

up in over two to three weeks leaving a hyper pigmented scar. Occasionally Herpes Zoster may occur without the vesicular rash called zoster sine herpette (zoster without rash) and the patient experiences only severe pain and Hyperesthesia over the dermatome affected. Difficulties in diagnoses encountered in this case in the private clinic may be due to lack of vesicular rash and it may have masqueraded as an abscess. Herpes Zoster infection has additional symptoms depending on the dermatome affected. When it involves the forehead, Herpes Zoster Ophthalmicus is a complication to look out for. If left undiagnosed it can result in conjunctivitis, episcleritis, keratitis, iritis and even loss of vision. In Herpes Oticus (also known as Ramsay Hunt Syndrome) which is a triad of facial paralysis, herpetic vesicles in the ear canal and pinna. Associated symptoms may include dizziness and loss of hearing. In this case, the patient reported to the Emergency clinic with complaints of dizziness, but she had no ear involvement.

The pharmacological treatment for HZ is mostly based on symptomatic relief and antiviral therapy. The treatment is to reduce the symptoms of pain, to control the spread and to avoid complications.²² The advantage of antiviral therapy seems to be highest in patients elder than 50 years, in whom the pain of HZ continues longer. Antiviral therapy is recommended for patients who present within 72 hours of clinical symptoms with uncomplicated herpes zoster. After 72 hours also, antiviral therapy is recommended if there are new lesions. Patients who have lesions with suspected secondary bacterial infection should receive proper staphylococcal and streptococcal antibiotic coverage in addition to antiviral therapy.^{17,22}

Treatment for Acute herpes Zoster infection includes: Oral Antiviral therapy: Valacyclovir 1000 mg 3 times daily for 7 days, famciclovir 500 mg 3 times daily for 7 days, Acyclovir 800 mg 5 times daily for 7 days. Valacyclovir and Famciclovir is preferred due to less frequent dosing. NSAIDs and Acetaminophen is used for mild pain and opioid analgesics is suggested for severe pain. The use of steroids in the treatment of Acute HZ is controversial although in combination with Acyclovir they show increased rate of healing of skin lesions and reduced pain.²²

In our case, the patient started her antibiotic medications recommended by the private clinician after misdiagnosing it as abscess and on the 3rd day she attended Health Centre emergency clinic, we stopped antibiotics and started the antiviral therapy after diagnosis of uncomplicated herpes zoster as she presented within 72 hours of clinical symptoms. Herpes zoster incidence increases with age and immunosuppression, therefore appropriate and urgent management is essential to avoid morbidity and mortality in these individuals.

Specifically, in cases where varicella-zoster reactivates after years or periods of dormancy, diagnosis of

complications are difficult. A rash can be present or absent. Symptoms may vary, and there is significant overlap in symptoms.²³ It may lead to the misdiagnosis and further complications.

CONCLUSION

In conclusion, our case emphasizes the extreme importance of detailed physical history and skin examination of patients with localized pain with or without blisters. HZ can be easily misdiagnosed with atypical presentation. Special attention needs to be given to patients with poor immunity. Physicians are advised to identify the early symptoms of HZ and to provide prompt antiviral therapy to avoid the risk of complications like Postherpetic neuralgia (PHN), Herpes zoster ophthalmicus (HZO), acute retinal necrosis (ARN) and Ramsay Hunt syndrome especially in the ageing population.

HZ is considered as a global health burden and is expected to increase in the elderly population across the world in the near future. In order to ensure appropriate treatment and to minimize complications, the accurate and timely diagnosis of HZ in the emergency clinics in Health Centres and Hospitals is extremely important. It is also important for healthcare practitioners and health policymakers to consider implementing an early diagnosis, treatment guidelines and effective preventive measures such as vaccination against HZ across the region.

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