

Case Report of Herpes Zoster in the 17-year-old Boy

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ABSTRACT

Herpes zoster has been caused because of the reactivation of latent Varicella-Zoster virus. It is a proportionally uncommon condition in the young population, as compared with adults. After taking consent from the legal guardian of the patient, we report a 17-year-old boy with a history of varicella, who came to us with the complaint of very severe painful vesicular lesions on the right side T1 and T2 dermatomal distribution of the chest, arm, and dorsal side of the trunk. Ultimately, the patient was diagnosed with herpes zoster. We focus to highlight that herpes zoster could occur in the healthy and immunocompetent young population and this may be due to the previous subclinical infection or vaccine strain reactivation.

Keywords: Chickenpox, herpes zoster, immunocompetent, post-herpetic neuralgia, varicella zoster virus.

INTRODUCTION

The infection with varicella-zoster virus (VZV) typically presents as two different entities: primary infection is chickenpox and herpes zoster (HZ) is a latent manifestation of former infection. Primary VZV infection is most obvious in children as chickenpox [1]. Generalized rash that begins as maculopapular lesions and converted to vesicles that spread to the extremities, along with fever is the main identification point for Chickenpox. It is highly transmissible. After the vesicles begin to form a crust, the lesions stop releasing the virus. Adults experience more complications and tend to be more seriously ill than patients having young age. HZ caused by the renaissance of the latent VZV infection may rarely develop at a young age. HZ is pondered to be a disease of adults, but recent reports show an increase in the number of cases at a young age [2]. A healthy young population without any immunosuppression may have HZ. Post-herpetic neuralgia (PHN) complication in young patients are usually less severe and gets better earlier than old patients, and complications are rare in young patients [3].

CASE PRESENTATION

A 17-years-old male student came to us with the complaint of severe stabbing pain on the right side of the chest, underarm, and on the dorsal side. The patient had a vesicular lesion on an erythematous base. The patient developed burning pain 2 days before the eruption of the lesions and took a pain killer himself. The next day patient went to a local General Practitioner (G.P)

for the pain and slight erythema developed around the above-mentioned areas. G.P advised him to continue pain killer and started the 3rd generation cephalosporin orally twice per day. The patient did not get better and the next day when he woke up he had a croup of multiple clear vesicles with an erythematous base on the above-mentioned area (**Fig. 1A&1B**). The patient came to us and informed us about the vesicular lesions and the patient described the nature of pain as like someone pushing the sword in his chest. The patient has been diagnosed with HZ after the Tzank smear test [4]. The patient has been advised to start the tab acyclovir 800mg five times a day, 3rd generation cephalosporin orally, injection of morphine, and topical application of the calamine lotion for soothing effects. The patient has been advised to continue treatment and revisit after 2 days [5].

After 2 days patient came to us with vesicles that started rupturing and new vesicles were not erupting but the pain of the patient was not getting better in comparison to the last visit. We advised the patient to add Amitriptyline



Fig. (1A): Shows multiple vesicles on the dorsal right side and

Fig. (1B): Shows vesicular lesion on an erythematous base on the right axilla.

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Fig. (2A-2C): Shows the crust on the lesion and a few post hyperpigmentation.

25mg orally, Carbamezapine 200mg once a day orally and Codine 10 mg twice a day in previous medicines. The patient has been advised to continue the same medicines for the next 15 days and then revisit. After 15 days the patient was completely fine with no pain and all the lesions have been settled with crust and post hyperpigmentation on the lesion site (**Fig. 2A-2C**).

DISCUSSION

The varicella-zoster virus leads to chickenpox and then it becomes dormant, commonly in the ganglia of the cranial nerves and dorsal root ganglia. Herpes zoster infection (HZI) also known as Shingles, is the product of the resurgence of VZV. The VZV enters via the respiratory system in the host and starts replicating mostly in the nasopharynx and then enters into the bloodstream [6].

In adults, shingles are more prevalent and usually start with an introduction of deep burning pain. An average of 30 days is required to fully settle a typical untreated herpes zoster outbreak, but it can take much longer than 30 days in a few cases. The prodromal phase common timeline for shingle is 2 to 3 days, followed by the rash to form into vesicles or blisters after 3-4 days. The fluid inside the blisters at first clears, but may become cloudy after 3-4 days. After another 5 days, the blisters begin secreting fluid, erupting and subsequently drying out and forming a crust. It takes 2-4 weeks for complete healing. PHN is the usual complication linked with HZ. PHN is a condition that affects nerve fibers and skin, causing burning pain that lasts long after the rash and blisters of shingles disappear. In this complication severe throbbing type of pain can persist for months even after the lesion resolves. Patients more than 50 years of age mostly developed PHN as a post-infection complication but as far as young teenagers are concerned PHN is not that much of a concern. Peripheral nerve palsies, loss of taste sensation, encephalitis, Ramsay Hunt syndrome, Bell's palsy, and myelitis are a few other complications of HZI. The primary aim for the usage of conventional and non-conventional therapy in the treatment of HZ is to reduce the pain, soothe vesicular lesions, and prevention of superimposed bacterial infection [7].

For HZ infection management following are a few commonly used antiviral agents,

1. Acyclovir 800 mg PO daily 5 times for 7-10 days.

2. Famciclovir 500 mg PO daily 3 times for 7 days.
3. Valacyclovir 1000 mg PO daily 3 times for 7 days
4. Brivudin 125 mg PO daily once for 7 days

For pain management in HZ infection other than antivirals, oral steroids have commonly been used [8]. In the oral steroid, category prednisolone can improve the quality of life of the patient. Narcotics, nerve block injections, local anesthetics, lidocaine patch 5%, and gabapentin usage are indicated in patients with severe pain as the first line of treatment. Tricyclic depressants and opioid analgesics are the second lines of treatment. In the treatment of PHN capsaicin has key importance because of its effect on C-fibre sensory neurons. These neurons release substance P, which mediates neurogenic inflammation and chemical-initiated pain. Transcutaneous electrical nerve stimulation (TENS) therapy usage has been beneficial in the management of PHN.

CONCLUSION

HZ is a very worrisome infection. It is the re-activation of the latent varicella virus. HZ is mostly considered as the disease of old and immunocompromised populations but nowadays cases are getting reported in young populations. Treatment with antiviral within 72 hours of the onset of the rash has shown a decline in the post-infection complication *i.e.* is PHN. Reduced incidence of HZ and PHN has been seen in individuals aged >60 years who have taken HZ vaccination. Despite many therapeutic options for herpes zoster and its complications, the treatment remains a problem.

CONSENT FOR PUBLICATION

The child's legal guardian consent was obtained to publish this Case report.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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