

Herpes zoster infection in young adult in the Nabdam district of Ghana: a case report

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ABSTRACT

The varicella zoster virus belongs to the family of alpha herpes viridae which is responsible for both primary and recurring infections. Herpes zoster is a condition caused by the reactivation of the varicella zoster virus. The reactivation follows a suppressed immune system or aging. Herpes zoster mostly affects the aged population; however, it can also occur at any age. Herpes zoster is capable of affecting any sensory ganglia and its cutaneous nerve. The infections mostly affect the dermatomes of T3 to L2, however, about 13% of the patients manifest infections relating any of the three branches of the trigeminal nerve. Prodromal symptoms may include malaise, neuropathic pain, headache and interrupted sleep. Herpes zoster causes pruritic, confined, blisters which usually occur unilaterally in the distribution of either one or more adjacent sensory nerves that comes along with neuropathic pain in the affected dermatome. This case of Herpes zoster is reported on a 32-years-old man who was managed based on the symptoms he presented.

1. INTRODUCTION

Herpes zoster (HZ), also called shingles, is caused by varicella zoster virus and is usually presented by painful, blistering dermatomal rash [1,2]. It is a neurodermotropic virus which remains quiescent in the sensory ganglion and upon reactivation, it causes HZ. Reactivation of the virus may occur when the immune system of the host is incompetent [3].

HZ usually erupts in one or two adjacent dermatomes; 50-60% being thoracic, 10-20% being cervical and trigeminal (10-20%) being most commonly affected areas. Meanwhile, the lumbar (5-10%) and the sacral (5%) are far less commonly affected dermatomes. In patients with

competent immune system, the involvement of non-contiguous dermatomes is never observed, however, intersecting of adjacent dermatomes can be observed in 20% of the cases.

The estimated lifetime risk of HZ in the general population is between 10-30%, with the risk increasing sharply in people over 50 years of age.[4] The incidence of HZ in immunocompetent individuals is 1.4 per 1000 person years in people below 40 years, 4.2 per 1000 person years in people up to 50 years and 10.5 per 1000 years for people above 50 years old.[5] This case is being reported to highlight the rarity of the incidence of HZ in individuals less than 40 years.

The Pelungu Health Center is located in the Nabdam District; a rural area of Northern Ghana. The Health Center provides primary healthcare services to meet the health needs of the local population.

2. PRESENTATION OF CASE

A 32-year-old man presented to the outpatient department with fever, pain and blisters on the right chest, right upper arm, back and neck for 6 days. He developed the vesicular eruptions 3 days after the fever, followed by itching, which subsided after 2 days. The patient also complained of severe and continuous pain which radiates to the neck and head. There was no history of physical or mental stress, trauma, ill health, radiotherapy. However, there was a history of exposure to HZ viral infection about ten years ago.

Examination showed ruptured vesicles which merged to form large, dried ulcers that differed in sizes from 1-2cm in diameter on the chest, upper arm, neck and back (figure 1). The ulcers were irregular in shape and covered with pseudomembranous sloughs at the base. The ulcers were tender on palpation. No vesicles were on the floor of the tongue or palate during intraoral examination. Based on the clinical manifestation, a diagnosis of HZ was given and patient immediately started antiviral medications and pain relievers.

A prescription of acyclovir tablets 600mg every 6 hours a day for one week was given to patient to control the active viral phase. Diclofenac tablets 50mg thrice daily for 3 days was also prescribed as a pain reliever and to suppress the inflammation. Vitamin C supplement was

given to promote healing of ulcers and topical application of acyclovir cream (5%) was also prescribed to help soothed the ulcers. The patient was reviewed every week for four weeks. By the fourth week, all lesions were healed and no new ones formed (figure 2).



Figure 1: Dried ulcers on the back, neck, chest and upper arm



Figure 2: Ulcers completely healed by the fourth week

3. DISCUSSION

Varicella zoster virus is an alpha herpes virus which causes primary infection called chicken pox and then becomes dormant, usually in the dorsal root ganglia or ganglia of the cranial nerves. On reactivation, it produces HZ infection, known as shingles. [6] The virus enters its host through the respiratory canals and begin to replicate at an undefined site (probably the

nasopharynx). The virus then infiltrates the reticuloendothelial system where it eventually finds its way into the bloodstream.[7]

HZ infection (shingles) mostly occur in adults and starts with a prodrome of deep, achy and burning pain. It is usually accompanied with slight to no fever and crops of vesicles begin to appear within 2-4 days in a dermatomal pattern.[6] The lesions then begin to dry up 3-5 days after appearing. The duration of the disease is generally between seven and ten days, although complete healing may last up to four weeks or more.[8] In the current case, the eruption of vesicles began 3 days after the fever, which subsided in two days as found in the literature. The patient also complained of severe and continuous pain which radiates to the neck and head and this synonymous to existing literature.

Postherpetic neuralgia (PHN) is considered the most common complication associated with herpes. This is a condition where the pain persist for a number of months and even sometimes years after the rash has been resolved.[9,10] It is estimated that 20% of elderly patients reports with PHN after acute phase of HZ infection. [11] The pain can be described as a brief recurring and shooting, with a constant, typically deep pain and it is a major cause of morbidity. Other possible complications of HZ may include myelitis, peripheral nerve palsies, encephalitis and forms of contralateral hemiparesis. A rare complication of HZ involving geniculate ganglion is termed Ramsay Hunt syndrome. It is characterized by the development of Bell's palsy, blisters of the outer ear as well as loss of taste in the anterior two-third of the tongue.[8] There was some degree of scarring and post-inflammation hypopigmentation.

Acyclovir is the first medication of choice for the management of HZ. It is prescribed as tablets acyclovir 800mg six hourly a day for 7-10 days. Famciclovir is a newer form of antiviral drug developed to specifically tackle the acute of phase of HZ infection. It is administered in dosage of 500mg thrice daily for 7 days. Topical acyclovir cream treatment is applied as topically four times daily for one week. Vitamin C is also given as 200mg thrice a day for 3 days.[12]

Oral corticosteroids have frequently been used for pain management in HZ, however, clinical trials have generated inconsistent outcomes for decreasing development of PHN. In a study using the combination of prednisone and acyclovir indicated a significant decrease in pain associated with HZ. Narcotics use may be indicated in patients suffering severe pain. Nerve block medications is also used as a pain management option in the standard medical model. Anesthetic agents may also be injected locally in the affected nerves and this could provide pain relief that lasts for 12-24 hours. [7]

4. CONCLUSION

It has been established that patients with HZ are contagious until the lesions have been healed. The current case presented with ruptured vesicles which merged to form large, dried ulcers that differed in sizes from 1-2cm in diameter. Therefore, prompt diagnosis and management of the infection in the prodromal phase by using the right antiviral medications should be the main aim of its management. Clinicians should therefore be equipped with thorough knowledge about manifestation of the disease, its treatment as well as its possible complications. Differential diagnosis is very crucial to ensure that the right treatment is provided.

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COMPETING INTEREST

There is no competing interest.

AUTHOR'S CONTRIBUTION

MTK wrote and edited the manuscript; LAA case record and management.

PATIENT CONSENT

A written informed consent was obtained from the patient for publication of this case report and accompanying his images.

ETHICAL APPROVAL

An approval was sought from Ghana Health Service through the Nabdam District Health Directorate.

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