

A rare case of Herpes zoster in childhood following vaccination against Varicella zoster virus

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Abstract

Introduction: Herpes zoster is caused by reactivation of Varicella zoster virus which lies dormant within dorsal root ganglion. Usually patients acquire the virus following primary Varicella zoster infection, but occasionally they get it after administration of Varicella vaccine. Hereby we describe a case of childhood Herpes zoster following Varicella vaccine.

Case history: A 3 years old febrile child was presented with multiple, hemorrhagic vesicles over left L2/3 dermatomes for 2 days duration. There was no past history of primary Varicella zoster infection but he was vaccinated against Varicella before. Patient was treated with acyclovir for Herpes zoster and patient recovered completely.

Discussion: This child with Herpes zoster acquired the virus possibly after administration of Varicella vaccine. Viraemia following vaccination might have carried the virus to distant neuronal locations at where the skin eruption developed.

Introduction

Herpes zoster is a clinical entity which describes the reactivation of Varicella zoster virus. This virus is one of the nine herpes viruses known to infect humans. It causes primary Varicella zoster infection

which is also known as 'Chickenpox' in humans and subsequently lies dormant within dorsal sensory nerve root ganglion, until reactivation at a later stage. This primary Varicella zoster infection is the usual mode of entry of the virus into the body. Clinically patients with Herpes zoster present with multiple clear to hemorrhagic painful vesicles usually over a single dermatome preceded by unilateral radicular pain. Occasionally adjacent or non-adjacent multiple dermatomal involvement can be seen.

Rarely humans acquire the virus after active vaccination against Varicella zoster virus. Though this entity is extremely rare among paediatric population, hereby we describe a clinical case of Herpes zoster in a 3 years old child following Varicella vaccine.

Case history

A 3 years old boy was presented with blistering eruption over left lateral thigh for 2 days duration. Physical examination revealed multiple, different sized, grouped, hemorrhagic vesicles on an erythematous base over left L2 and L3 dermatomes (Figure 1 & 2). He was febrile and ill despite the absence of



Figure 1.



Figure 2.

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other systemic symptoms and signs. There was no past history of Varicella zoster infection in this child. However he was vaccinated against Varicella zoster virus at the age of 2 months because his mother developed primary Varicella zoster infection. The vaccine was given to the left upper deltoid region. So, the clinical diagnosis of Herpes zoster was made and the child was treated with oral acyclovir, to which he responded promptly.

Discussion

In this case, the clinical presentation which comprised the typical vesicular eruption over L2 and L3 dermatomes, was much more consistent with the clinical diagnosis of Herpes zoster despite the absence of past history of primary Varicella zoster infection. Therefore what was crucial here is to explore the past medical history thoroughly to identify any other possible mechanism of entry of the virus into the body. As a result it was revealed that this child was vaccinated against Varicella zoster virus at the age of 2 months.

Varicella zoster vaccine is a live attenuated vaccine which is injected subcutaneously. This type of vaccines are produced by reducing the virulence of the viable pathogen by altering it. However secondary mutations can cause a reversion to the wild type of the virus with high virulence, which is capable of producing the disease. In this case the disease manifests as Herpes zoster. A significant number of cases of Herpes zoster following Varicella vaccine were described in literature and vast majority of them were adults. The average time period between

the vaccination and the onset of symptoms has been described as 3.3 years in certain studies.

Though it is extremely rare in children, still it can be the mechanism of entry of the virus which caused Herpes zoster in this child 2.8 years after vaccination. Further in this case, the typical vesicular eruption developed over dermatomes distant to the site to which the vaccine was delivered. This is possibly due to viraemia occurred following administration of the vaccine, might have carried the virus to distant neuronal locations. As a result, he got the vesicular eruption over region localized to L2 and L3 dermatomes.

The clinical diagnosis was well supported by the prompt response shown by this patient to oral acyclovir.

Therefore this can be considered as a rare case of Herpes zoster in childhood after administration of Varicella zoster vaccine.

References

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