

# Contemporaneous Herpes zoster and Chicken Pox in a Child

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## Abstract

A 3 years old girl presented with a two day history of multiple fluid filled lesions on buttocks and back of left thigh. As informed by the child's mother she had fever 4 days back along with generalized malaise, pain and discomfort on back of the left thigh. The pain was episodic, tingling in nature and radiated from buttocks to the leg. On examination, multiple fluid filled lesions of various sizes with surrounding erythema were present involving the S1, S2, S3 dermatome extending from buttock to the sole sparing few areas in between the vesicles. On further examination of whole body, there were multiple discrete fluid filled lesions on erythematous base ranging from 0.1 to 0.3 mm diameter in size on chest, abdomen and back. Multinucleated giant cells with acantholytic cells were found in Tzanck smears. Diagnosis of concurrent varicella with herpes zoster was made.

**Keywords:** Concurrent varicella; Herpes zoster

## Introduction

Varicella (chickenpox), a common contagious disease of childhood, is caused by the varicella zoster virus (VZV) [1]. VZV belongs to alpha herpes virus group and establishes latency in the cells of the dorsal root ganglia after an episode of primary infection. The etiology of varicella and herpes zoster was first reported by von Bo'kay in 1888 from the observation that susceptible children often developed varicella after exposure to adults with herpes zoster [1-3]. Once the chickenpox resolved, the virus settles down within the neurons of cranial nerves and dorsal root ganglia throughout the lifetime of the host [4,5]. We report this case because the two conditions rarely occur concurrently in the same individual.

## Case Report

A 3 years old girl presented with a two day history of multiple fluid filled lesions on buttocks and back of left thigh.



Figure 1: Grouped vesicles on S1, S2, S3 dermatome.

As informed by the child's mother she had fever 4 days back along with associated generalized malaise, pain and discomfort on back of the left thigh. The pain was episodic, tingling in nature and radiated from the buttocks to the leg. On examination multiple fluid filled lesions of various sizes with surrounding erythema were present on the skin involving S1, S2, S3 dermatome and these extended from buttock to the sole with sparing of few areas in between them. These eruptions were arranged in groups and varied from 0.1 mm to 0.3 mm in size (Figure 1).

On further examination of the whole body there were multiple discrete fluid filled lesions on erythematous base ranging from 0.1 to 0.3 mm diameter in size on chest, abdomen and back (Figure 2).

On further probing, mother of the child revealed that both fluid filled lesions over body and leg appeared simultaneously. No history of similar lesions was there in the past. Tzanck smear from lesions over body and leg were examined and subjected for both gram stain and geimsa stain. Gram stain showed lymphocytes and neutrophils. Multinucleated giant cells with acantholytic cells were found in both smears.



Figure 2: Discrete vesicles on back.

Haemogram was within normal limits. Serology for antibody titre of varicella was positive. HIV serology was negative in both child and mother. The child was treated with syrup acyclovir 20 mg/Kg body weight five times a day for seven days, syrup paracetamol, syrup cetirizine and mupirocin ointment topically. The parents were advised to isolate the child from other family members and contacts. The child was reviewed after 3 days by which the lesions subsided.

The patient was again reviewed on 7th day and by the 10th day the lesions on the trunk healed with hypopigmentation and lesions on thigh healed with both hypo and hyperpigmentation.

## Discussion

VZV causes a wide range of disorders including chickenpox in childhood and shingles in elderly [4]. A decline in host immunity, usually in elderly and immunocompromised individuals, results in reactivation of the virus from latency [6]. This is followed by the spread of reactivated virus to the skin through axons, causing a radicular pain and rash in the form of vesicles on an erythematous base with characteristic dermatomal distribution [4,5]. Since VZV is latent in numerous sensory ganglia, herpetic vesicles can occur anywhere on the body, commonly in thoracic, trigeminal and multiple dorsal root ganglia [5]. Thus, varicella results from the primary VZV infection, whereas herpes zoster (shingles) is the result of reactivation [1,2,7]. There is a certain lag period between the primary varicella infection and herpes zoster, that is why varicella usually occurs in children and zoster occurs in adult. Primary varicella infection usually results in lifetime immunity, and second episodes of varicella are uncommon, but they may occur [1]. Though both herpes zoster and varicella are produced by the same virus, in herpes zoster the eruption follows the distribution of the cutaneous nerves and the virus is said to be neurotropic, whereas in varicella there is no such distribution and it is said to be dermatropic [8]. Strangely enough the two conditions rarely occur in the same individual that too in a child, and only six cases have been reported in the literature [8-10].

## Conclusion

In view of the fact that both conditions are probably produced by the same virus, the reason why on some occasions the virus assumes neurotropic qualities and in others dermatropic qualities is unclear and necessitates further analysis.

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