

RESEARCH ARTICLE

Epidemiological Survey of Subjects in the age group of 18 to 24 Years for Failed Secondary Response to Varicella Zoster Virus (VZV)

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ABSTRACT:

Varicella Zoster Virus (VZV) is the causative agent of chicken pox. The virus belongs to the herpes virus family. The person infected develops itchy blisters all over the body. In most of the cases it occurs in children younger than 10 years this being the primary encounter with the virus. In some cases, Varicella reactivates in later stage and causes shingles. Shingles are rare in children. But in few cases demonstrating failure in secondary response against chicken pox have been encountered in the age group of 18-24 years. Our survey is mainly directed at understanding the proportions of different factors (like nutrition, stress, BMI, etc.) contributing to the failure of this secondary response. The results interestingly suggest that chickenpox may be acquired twice in a lifetime, depending on multiple factors.

KEYWORDS: Chicken pox, Varicella Zoster Virus(VZV), Shingles, Latency, Secondary response.

INTRODUCTION:

Chicken Pox is caused by the Varicella zoster virus and is a common childhood illness.¹ The disease spreads through the population very easily. In rare cases, this disease may exhibit its severity in adults in the form of complications like hepatitis, pneumonia, encephalitis.² But the primary targets of the virus are children, with an estimated household secondary attack rate of 90%. During the viral incubation period (10–21 days), it reproduces in the upper respiratory tract in the beginning and later, spreads to the reticuloendothelial system (liver, spleen) and other organs.³ For diseases caused by VZV, specific cell-mediated immunity plays a major role in the defence mechanism.⁴ VZV presents itself as chicken pox at first, most often in childhood, and can remain asymptotically latent in nerve tissues for several years and often appear as shingles later in life.⁵ Within 3 days from the onset of the disease rashes scatter from the chest to the periphery, and then to the whole body.

Rash patterns include the early manifestation of vesicles in a teardrop shape, followed by appearance of macular rashes with crusting.⁶ These rashes occur with 5-6 days of severe pruritus. Isolation of patients is important until crusting of rashes is complete, as the disease remains infectious.⁷ Reactivation of latent VZV infection can cause an HZ infection in the dorsal root ganglia, also known as shingles.⁸ The presence of multiple, painful, unilateral vesicles, ulceration, and a single dermatome innervated by single dorsal root or cranial sensory ganglion characterize this condition.⁹ Typically, this lasts 4-5 weeks. Often described as an intense burning, itching sensation, the pain can be significant to the point of being debilitating, and as such can greatly affect quality of life.¹⁰ Aging or immunosuppression is the primary factors for the reactivation of the virus and the risk of this condition increases steeply after the age of 50 years.¹¹ When observed in children, unlike in adults, local pain, hyperesthesia and pruritus are rare. The disease generally continues up to 15 days however the entire healing of skin taken more than a month. Post-herpetic neuralgia, iridocyclitis, secondary glaucoma, meningoencephalitis and encephalitis are few complications that are associated with HZ.³ Shingles are rare in children. But in few cases demonstrating failure in secondary response against chicken pox have been

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