

193 Varicella-Zoster Virus Infections

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■ DEFINITION

Varicella-zoster virus (VZV) causes two distinct clinical syndromes: varicella (chickenpox) and herpes zoster (shingles). Chickenpox, a ubiquitous and extremely contagious infection, is usually a benign illness of childhood characterized by an exanthematous vesicular rash. With reactivation of latent VZV (which is most common after the sixth decade of life), herpes zoster presents as a dermatomal vesicular rash and is usually associated with severe pain.

■ ETIOLOGY

Early in the twentieth century, similarities in the histopathologic features of skin lesions resulting from varicella and herpes zoster were described. Viral isolates from patients with each of these diseases produced similar pathology in tissue culture—specifically, the appearance of eosinophilic intranuclear inclusions and multinucleated giant cells. These results suggested that the viruses were biologically similar. Restriction endonuclease analyses of viral DNA from a patient with chickenpox who subsequently developed herpes zoster verified the molecular identity of the two viruses responsible for these different clinical presentations.

VZV is a member of the family Herpesviridae, sharing with other members such structural characteristics as a lipid envelope surrounding a nucleocapsid with icosahedral symmetry, a total diameter of ~180–200 nm, and centrally located double-stranded DNA that is ~125,000 bp in length.

■ PATHOGENESIS AND PATHOLOGY

Primary Infection Transmission occurs readily by the respiratory route; the subsequent localized replication of the virus at an undefined site (presumably the nasopharynx) leads to seeding of the