

宿主防禦異常與病毒感染的關連：以皰疹與腸病毒為例

Relationship between the disturbance of host defense and occurrence of infectious diseases: The model of herpes simplex and EV71 infection

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For almost any given human-tropic virus, bacterium, fungus, or parasite, the clinical outcome of primary infection is enormously variable, ranging from asymptomatic to lethal infection. This variability has long been thought to be largely determined by the germline genetics of the human host, and this is increasingly being demonstrated to be the case. The number and diversity of known inborn errors of immunity is continually increasing. TLR3 recognizes double-stranded RNA (dsRNA), an intermediate or by-product of replication by many viruses. Mutations in the TLR3 gene predispose to herpes simplex virus encephalitis, severe influenza pneumonia, and varicella zoster virus ophthalmicus. Limited evidence suggests that defective TLR3 signaling may also associate with a wider range of viral infections. Enterovirus 71 typically causes hand-foot-and-mouth diseases in infected children. A few infected children however suffer from life-threatening encephalitis. The pathogenesis of encephalitis in those patients is unknown. We hypothesized that EV71 encephalitis in children might reflect an intrinsic host single-gene defect of anti-viral immunity.