

**SEVERE FEVER WITH THROMBOCYTOPENIA SYNDROME** This tick-borne disease is caused by severe fever with thrombocytopenia syndrome bandavirus. Numerous human infections have been reported during the past few years from China, and several cases have also been detected in Japan, the Republic of Korea, and Vietnam. The clinical presentation ranges from mild nonspecific fever to severe VHF with high (>12%) lethality.

**Flaviviruses** The most significant flaviviruses that cause VHF are the mosquito-borne dengue viruses 1–4 and yellow fever virus. These viruses are widely distributed and cause tens to hundreds of thousands of infections each year. Alkhurma hemorrhagic fever virus (isolated infections every year), Kyasanur Forest disease virus (~10,000 cases over 60 years), and Omsk hemorrhagic fever virus (isolated infections every year with intermittent larger outbreaks) are geographically very restricted but prevalent tick-borne flaviviruses that cause VHF, sometimes with subsequent viral encephalitis. Tick-borne encephalitis virus has caused VHF in a few patients. There is currently no therapy for infection with these VHFs, but an inactivated vaccine has been used in India to prevent Kyasanur Forest disease.

**SEVERE DENGUE** Although most individuals infected with dengue virus 1, 2, 3, or 4 have either subclinical infection or fever and myalgia syndrome, some of these patients enter a critical phase—often as fever declines—and develop the criteria for severe dengue: plasma leakage severe enough to cause shock or respiratory distress, severe bleeding, or severe organ dysfunction. The complex determinants of risk for this progression include contributing host and viral factors but center most notably around the potential for immune-mediated enhancement of disease. Several weeks after convalescence from infection with dengue virus 1, 2, 3, or 4, the transient protection conferred by that infection against reinfection with a heterotypic dengue virus usually wanes. Heterotypic reinfection may result in classic dengue without/with warning signs or, less commonly, in severe dengue. In the past 20 years, yellow fever mosquitoes (*Ae. aegypti*) have progressively reinvaded Latin America and other areas, and frequent travel by infected individuals