

TICK-BORNE INFECTIOUS DISEASES IN HUMANS

PART 1 – VIRAL DISEASES



Disease	Causative pathogen	Clinical phenotypes	Relevant ticks	Continent(s)
Tick-borne encephalitis	Tick-borne encephalitis virus (TBEV; European, Siberian, Far Eastern, plus “new” rare subtypes)	Asymptomatic (~98%); febrile illness; CNS disease (meningitis, encephalitis, myelitis, psychiatric manifestations)	<i>Ixodes ricinus</i> , <i>Ixodes persulcatus</i>	Europe; Asia
Crimean-Congo hemorrhagic fever (CCHF)	Crimean-Congo hemorrhagic fever virus (CCHFV)	Asymptomatic to severe hemorrhagic fever; multi-organ failure	Mainly <i>Hyalomma</i> spp.; other ixodid ticks regionally	Africa; Europe; Asia
Colorado tick fever	Colorado tick fever virus (CTFV)	Acute febrile illness; usually self-limited	<i>Dermacentor andersoni</i>	North America
Powassan virus disease	Powassan virus (POWV; lineages 1 and 2)	Febrile illness; CNS disease (meningitis, encephalitis)	<i>Ixodes scapularis</i> , <i>Ixodes cookei</i> , <i>Ixodes marxi</i> , <i>Dermacentor andersoni</i>	North America
Kyasanur Forest disease	Kyasanur Forest disease virus (KFDV)	Hemorrhagic fever; relapsing phase; meningoencephalitis	<i>Haemaphysalis spinigera</i>	Asia
Omsk hemorrhagic fever	Omsk hemorrhagic fever virus (OHFV)	Acute febrile illness; hemorrhagic manifestations (minority)	<i>Dermacentor reticulatus</i> , <i>Dermacentor marginatus</i>	Asia
Louping ill	Louping ill virus (LIV)	Usually asymptomatic or influenza-like illness; occasional meningoencephalitis	<i>Ixodes ricinus</i>	Europe
Alkhurma hemorrhagic fever	Alkhurma hemorrhagic fever virus (AHFV)	Febrile illness; hepatitis; hemorrhagic manifestations	<i>Hyalomma dromedarii</i> , <i>Ornithodoros savignyi</i>	Asia; Africa
Bhanja virus disease	Bhanja bandavirus (BHAV)	Febrile illness; meningitis; rare neuroinvasive disease	<i>Haemaphysalis</i> spp.	Europe; Africa; Asia
Kemerovo virus disease	Kemerovo virus (KEMV)	Febrile illness; meningitis; encephalitis	<i>Ixodes persulcatus</i>	Asia
Lipovnik virus disease	Lipovnik virus (LIPV)	Meningitis; meningoencephalitis; polyradiculitis	<i>Ixodes ricinus</i>	Europe
Tribec virus disease	Tribec virus (TRBV)	Febrile illness; meningitis	<i>Ixodes ricinus</i>	Europe; Asia
Severe fever with thrombocytopenia syndrome (SFTS)	Dabie bandavirus / SFTS virus (SFTSV)	Severe febrile illness; thrombocytopenia; leukocytopenia; hemorrhagic manifestations; multi-organ dysfunction	Mainly <i>Haemaphysalis longicornis</i>	Asia
Bourbon virus disease	Bourbon virus (BRBV)	Acute febrile illness; cytopenia; severe systemic disease (rare)	<i>Amblyomma americanum</i>	North America
Heartland virus disease	Heartland virus (HRTV)	Acute febrile illness; leukopenia; thrombocytopenia; gastrointestinal symptoms; severe systemic disease (rare)	<i>Amblyomma americanum</i>	North America

References

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