

Table 1. Epidemiologic and Clinical Characteristics of Tickborne Infections

	LYME DISEASE	BABESIOSIS	ANAPLASMOSIS	EHRlichiosis	RMSF
Main Vector	Blacklegged tick	Blacklegged tick	Blacklegged tick	Lone star tick	American dog tick
Incubation Period	3-30 days (from tick bite to rash development, if rash develops)	1–3 weeks	1–2 weeks	1–2 weeks	2–14 days
Rash	Erythema migrans in 70-80% of patients	--	Rare	30%	Spotted rash ~90% of patients
Complications	Early-disseminated disease: A-V block, Bell's palsy, cranial neuritis, lymphocytic meningitis/encephalitis/encephalomyelitis, multiple erythema migrans Late-onset: arthritis, radiculoneuropathy	Hepatospleno-megaly, thrombocytopenia, hemolytic anemia, death (5% in untreated cases infected with <i>B.microti</i>)	Difficulty breathing, hemorrhage, thrombocytopenia, leukopenia, LFT increases, renal failure, neurological problems, death (<1% in untreated cases)	Difficulty breathing, bleeding disorders, thrombocytopenia, leukopenia, LFT increases, death (1% in untreated cases)	Hearing loss, thrombocytopenia, leukopenia, mild LFT increases, amputation of extremities or limbs, paralysis, mental disability, death (30% in untreated cases)
Laboratory Tests	A positive two-tier test. (This is defined as a positive or equivocal enzyme immunoassay (EIA) or immunofluorescent assay (IFA) followed by a positive Immunoglobulin M1 (IgM) or Immunoglobulin G 2 (IgG) western immunoblot (WB) for Lyme disease)	Microscopy PCR in whole blood	PCR IgG antibody titer to <i>A.phagocytophilum</i> antigen by IFA demonstrating a four-fold changes in paired serum samples Identification of morulae in the cytoplasm of monocytes or macrophages by microscopic examination	PCR IgG antibody titer to <i>E.chaffeensis</i> antigen by IFA demonstrating a four-fold changes in paired serum samples Identification of morulae in the cytoplasm of monocytes or macrophages by microscopic examination	PCR in whole blood during first week of illness onset AND IgG antibody testing by IFA demonstrating a four-fold changes in paired serum samples
Treatment	Doxycycline Cefuroxime axetil Amoxicillin	Atovaquone PLUS azithromycin; OR clindamycin PLUS quinine	Doxycycline*	Doxycycline*	Doxycycline*

*Clinical suspicion is sufficient to begin treatment. Delay in treatment may result in severe illness and death.