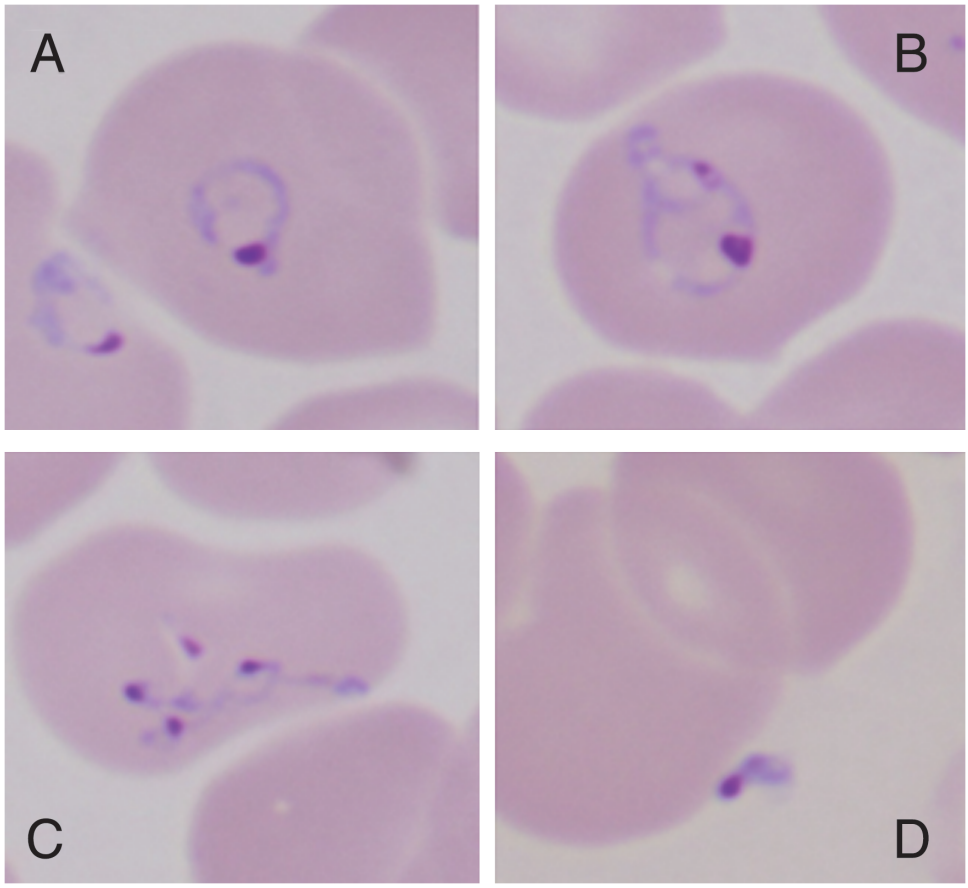

Figure 5. Giemsa-stained thin blood films showing *Babesia microti* parasites. *Babesia microti* are obligate parasites of erythrocytes. Trophozoites may appear as ring forms (*A*) or as ameboid forms (*B*). Merozoites can be arranged in tetrads (Maltese Cross forms) and are pathognomonic of babesiosis (*C*). Extracellular parasites can be noted, particularly when parasitemia is high (*D*) (adapted from [3]).

collected during the acute and convalescent phases of illness [63]. This approach is impractical for the diagnosis of acute babesiosis. Antibody testing is used to determine the seroprevalence of *Babesia* infection in epidemiological studies and may have a role in screening the blood supply [21, 30, 31, 64].

Non-*Babesia microti* Infection: Subtle morphological differences between *Babesia* species can be observed on blood smear but the basic features are common to all, including ring-form trophozoites and the pathognomonic but infrequently observed merozoite tetrads or "Maltese cross" forms (Figure 5). A *Babesia* species-specific PCR can confirm active *Babesia* infection and the infecting species. Some commercial laboratories and referral centers, such as the laboratory at the Parasitic Diseases Branch of the Centers for Disease Control and Prevention can provide PCR and DNA molecular analyses to detect non-*B. microti* species. If a *B. microti* PCR test is performed first and is negative but babesiosis is still suspected, a blood smear or pan-*Babesia* PCR test should be performed.

Symptomatic patients who test positive for *Babesia* (non-*B. microti*) antibody should either have a blood smear, a PCR assay capable of detecting all *Babesia* species (a pan-*Babesia* PCR assay), or a *Babesia* species-specific PCR that matches the *Babesia* (non-*B. microti*) antibody. The whole cell *B. microti* indirect fluorescence antibody (IFA) assay does not detect *B. duncani* antibody, just as the whole cell *B. duncani* IFA assay fails to detect *B. microti* antibody [8]. Sera from *B. venatorum* infected patients will cross-react against whole cell *B. divergens* antigen [13].

Rationale for Recommendation: Early diagnosis of symptomatic patients hastens appropriate antimicrobial therapy, which typically reduces the severity and duration of symptoms and helps prevent complications [38]. A diagnosis of babesiosis should be considered for any patient who presents with typical symptoms (especially fever, fatigue, chills, sweats, headache, and anorexia), characteristic routine laboratory test abnormalities, and who lives in, or has traveled to a *Babesia* endemic region within the previous month or who has received a blood transfusion within the previous 6 months. Most patients who acquire babesiosis through blood transfusion develop symptoms after a 1 to 9 week incubation period but it can be can as long as 6 months [28].