

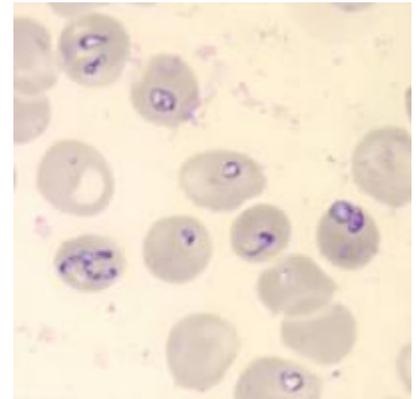
# Babesiosis

## The organism

*Babesia microti* is a zoonotic hemoprotozoa transmitted by *Ixodes scapularis*, the deer tick. The parasite invades and kills red blood cells, so Babesiosis is a blood infection with many similarities to malaria (see photograph of the parasite in blood cells). The first case of human Babesiosis on Long Island was reported in a patient from Shelter Island in 1977. Since then, this disease has remained frequent on eastern Long Island.

## The Disease

Several early studies established that the main risk factors for clinical Babesiosis were in elderly patients and those who have had their spleen removed. Other forms of immune dysfunction resulting from existing conditions, or from therapies for cancer, or other diseases, as well as alcoholism, can also result in severe and difficult-to-treat parasitemia (parasites in the blood) and hemolysis (rupture or destruction of red blood cells). Subclinical Babesiosis, i.e. not easily diagnosable, can occur in individuals who do not have the above risk factors, and who represent a group of asymptomatic seropositives (people who test positive but have no symptoms) who can have transient parasitemia in which the presence of parasites in the blood is short term. These people can serve as donors for recipients of blood transfusions. The typical presentation of clinical Babesiosis includes nonspecific flu-like symptoms, such as fever, chills, and sweats. The infection can progress to hemolytic anemia (i.e. red blood cells are destroyed faster than they can be made) as a result of the destruction of the red blood cells by the parasite. This condition can be accompanied by jaundice and dark urine. In patients with risk factors, Babesiosis can be the most severe and life-threatening of all the infections transmitted by ticks.



## Treatment

Patients are treated with clindamycin and quinine and also with atovaquone and azithromycin. In extremely severe cases, exchange transfusions, where the infected blood cells of the patient are replaced with blood components, have given good results.

## Double infections and prevention

Cases of Babesiosis have increased markedly. The ratio of reported Lyme disease to Babesiosis cases in our area is one of the highest in the endemic zones of the northeast. Because the agents of Babesiosis (*Babesia*) and Lyme disease (*Borrelia*) can be transmitted by the *Ixodes* deer tick, these two diseases can occur simultaneously in the same patient. Double infections represent special diagnostic challenges as the treatment for Lyme disease and for Babesiosis are different. Persons with one or more of the risk factors for clinical Babesiosis need to avoid tick-infested areas and be extra careful about checking themselves for ticks.



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