Babesia species, Molecular Detection, PCR, Blood

Change in ability to order

Babesia is a genus of intraerythrocytic protozoa within which there are many known species that can cause the human disease babesiosis. Babesiosis is characterized by fever, chills, extreme fatigue, and severe anemia. The disease is usually self-limited but, in rare instances, can be fatal. The most severe cases usually occur in asplenic individuals and those over the age of 50. Rare cases of chronic parasitemia have also been described. The majority of cases are caused by Babesia microti that is endemic to the northeastern coast of the United States. It is spread through the saliva of an Ixodes scapularis tick bite, the most common vector for Babesia in the northeast. Babesia can also be acquired through blood transfusions; therefore, it is required that donor units be screened in endemic areas. The definitive laboratory diagnosis of babesiosis involves a blood parasite examination of Giemsa-stained thick and thin blood films to identify characteristic intraerythrocytic parasites. In addition to the blood parasite examination, other methodologies are available for the diagnosis of babesiosis, including antibody serology and molecular detection by polymerase chain reaction (PCR). For the purposes of diagnosing disease, it is recommended that these tests be ordered for suspected babesiosis during the acute febrile stage of infection in patients from endemic areas, and not for asymptomatic patients.

Currently, the Microbiology Laboratory offers the blood parasite examination as an in-house test and the molecular detection by PCR as a send-out test to Mayo Medical Laboratories. Following recent review, the UVMMC laboratory has determined that, during the acute febrile stage of babesiosis, the blood parasite examination is as sensitive in detecting Babesia as the send-out PCR test. In fact, in the past two years, there has not been a single discordant result between the blood parasite examination and the molecular detection PCR test. The molecular test by PCR did not identify any additional positive cases. Therefore, in keeping with the principles of good test utilization, the molecular detection PCR test will no longer be orderable for the purpose of diagnosing symptomatic babesiosis. It will only be available to UVMMC’s transplant service and their providers for the purpose of screening solid organ donors. All other requests will be denied.