

# In Our Own Backyard

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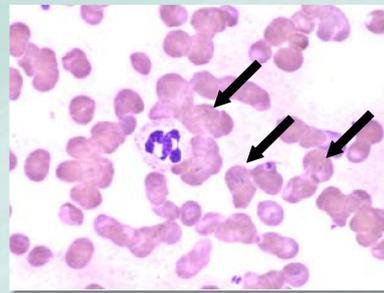
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# In Our Own Backyard

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## Transmission

- **Vector:** *Ixodes scapularis* tick
- **Incubation period:** 1 - 9 weeks
- **Peak prevalence:** May to October
- **Location:** New England/ northeastern United States



## Diagnosis

- PCR
- Blood smear visualization of intra-erythrocytic inclusions
- Antibody serology

## Treatment

- Mild to moderate disease - Atovaquone 750 mg orally twice a day & Azithromycin on day 1 give 500-1000 mg orally; on subsequent days, give a total daily dose in the range of 250-1000 mg
- Severe disease - Clindamycin 600 mg orally 3 times a day & Quinine 650 mg orally 3 times a day
  - RBC exchange transfusion- indicated when the level of parasitemia is greater than 10%, renal or hepatic dysfunction occur, substantial hemolysis is present, or the patient experiences respiratory distress. Blood smear monitoring is performed until the level of parasitemia is <5%.
  - Risk factors for severe disease: asplenia, immunocompromised state, & age >50
  - Mortality rate: 5% in immunocompetent patients & 21% in immunocompromised populations
- Duration of therapy: 7-10 days

## Case

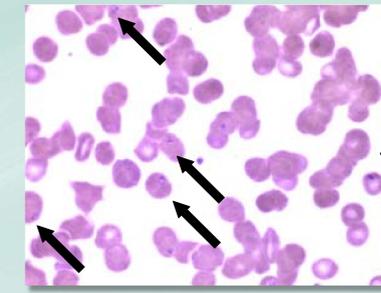
A 77 year old female from eastern Pennsylvania presented with one month of progressive fatigue, anorexia, dark colored urine, and increasing weakness, prompting her to seek medical attention. On presentation, the patient had slowed mental acuity, but was appropriate. She denied other symptoms. Her exam was completely non-focal, with the exception of a tick on her right calf.

Labs revealed a new macrocytic anemia (hemoglobin 7.1 g/dl) and thrombocytopenia (92K platelets). CT imaging of her abdomen and pelvis was normal with the exception of a new splenic infarct. A peripheral blood smear demonstrated intra-erythrocytic ringed forms. Slides were then sent to the State DOH and the CDC for confirmation of the diagnosis. The percent parasitemia was reported by the CDC as >10. A diagnosis of babesiosis was made.

Treatment was initiated with Quinine and Clindamycin. Given her advanced age and her other lab findings, RBC exchange transfusion was performed. Afterwards, her mental status, weakness, and appetite improved. Her hemoglobin improved to 10.2 g/dl; and, her repeat blood smears showed clearance of the parasite. Further testing revealed co-infections with *Borrelia burgdorferi* and *Anaplasma phagocytophilum*. She completed a full course of therapy for all three infections. She did experience some hypoglycemia as a result of her Quinine therapy, but this resolved after cessation of treatment.

## Signs/Symptoms

- Asymptomatic
- Mild/Moderate:
  - Fever/chills - most common presenting symptoms
  - Nausea/ vomiting
  - Fatigue
  - Headaches
  - Anorexia
  - Myalgias/ arthralgias
  - Lab findings: Anemia/ thrombocytopenia
- Severe
  - Acute respiratory failure/ pulmonary edema/ ARDS
  - Change in mental state
  - Sepsis/ DIC
  - Acute renal failure
  - Acute hepatic failure
  - Anorexia
  - Myalgias/ arthralgias
  - Lab findings: marked thrombocytopenia
- Physical exam findings: hepatomegaly/ splenomegaly/ jaundice



## Summary

Babesiosis is an emerging infectious disease, newly reportable to the CDC this year. No rapid test for exposure to *B. microti* exists, and blood transfusion related infections have occurred.

Cases of babesiosis are on the rise in Eastern Pennsylvania. Our patient presented with a rare case of co-infection with *B. microti*, *B. burgdorferi* and *A. phagocytophilum*. In patients living in tick infested areas presenting with fevers, new onset of macrocytic anemia, and/or history of tick exposure, this diagnosis should be strongly considered. Prompt recognition can prevent complications of this potentially fatal infection.

## References:

1. Vannier, Edouard, and Krause, Peter. Update on Babesiosis. Interdisciplinary Perspective on Infectious Diseases. Vol 2009. 3/2009.
2. Wormser, Gary, Dattwyler, Raymond, Etal. The Clinical Assessment, Treatment, and Prevention of Lyme Disease, Human Granulocytic Anaplasmosis and Babesiosis: Clinical Practice Guidelines by the Infectious Diseases Society of America. Clinical Infectious Diseases. 2006; 43: 1089-134.
3. Parasites – Babesiosis. Center for Disease Control and Prevention. www.cdc.gov/parasites/babesiosis/
4. Peripheral Blood Smear Slides: James R. Lute, Ph.D. Director Division of Clinical Microbiology Bureau of Laboratories, Pennsylvania Department of Health.

