

BABESIOSIS, ANAPLASMOSIS - USA: (MASSACHUSETTS)

A ProMED-mail post

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Date: Sun 22 Dec 2013

Source: Cape Cod Times [edited]

<<http://www.capecodonline.com/apps/pbcs.dll/article?AID=/20131222/NEWS/312220338>>

It wasn't long ago that the tiny deer tick that transmits Lyme disease was seen as dangerous -- but not a killer. That view is changing.

Public health officials report that at least 10 people in Massachusetts died last year [2012] after contracting diseases carried by the freckle-sized tick [babesia, anaplasma].

One was a young adult who, as reported last week [13 Dec 2013] by the Centers for Disease Control and Prevention, collapsed in November 2012 after suffering a rare cardiac event known as Lyme carditis.

In addition, at least 9 other people were felled by 2 emerging tick-borne illnesses heavily concentrated on the Cape and Islands, according to the Massachusetts Department of Public Health.

Babesiosis

Babesiosis, also known as Nantucket fever, was responsible for taking the lives of 5 people in 2012, according to the DPH. Health officials did not release where the people lived or where they may have contracted the disease. And at least 4 other people in the state died that year after contracting anaplasmosis, caused by a bacteria carried by the same black-legged deer tick that passes on Lyme spirochetes and the babesia parasite, the DPH says. "The issue is that both of these diseases can occasionally cause severe illness that can lead to death," said Dr Catherine Brown, DPH state veterinarian.

This is the 1st year the state has included death statistics for the 2 tick-borne diseases with its latest surveillance data, which is for 2012. While less common than Lyme disease, babesiosis and anaplasmosis cases have more than quadrupled since 2008.

Last year [2012], nearly half of the state's 233 babesiosis cases -- 103 -- were on the Cape and Islands. In the young and healthy, babesiosis might seem like nothing more than a mild flu or be barely noticeable. But for those with compromised immune systems, including cancer patients, individuals who have lost their spleens and senior citizens, the malarial-like disease can prove dangerous -- and sometimes fatal.

Nearly 60 percent of confirmed babesiosis cases last year [2012] occurred in people over age 60, the DPH said. 39 percent were hospitalized. Patients frequently report fatigue, malaise, fevers, shaking, chills, drenching sweats, and sometimes discolored urine.

"Babesiosis destroys your red blood cells," Brown said. "You may have trouble catching your breath."

The majority of cases occur in the summer months, but only 25 percent of people stricken with babesiosis recall getting a tick bite, the DPH says. That's a frightening statistic [to a woman from] Brewster, whose 77-year-old husband died in 2008 after contracting the disease. He had the sweats but no fever, she said. "I'm talking profuse sweating, clothes being wet, sopped. Doctors in the emergency room at Cape Cod Hospital diagnosed her husband with babesiosis and said his red blood cell counts were dangerously low, she said. Her husband died a few hours after arriving at the hospital. She said babesiosis was not listed as the cause of death. "You do get weak from the illness due to anemia," said Dr David Pombo, medical director of infection prevention for Cape Cod Healthcare. In addition, platelet counts can drop so low that blood has trouble clotting after a traumatic injury such as a fall, he said.

Despite the recent wintry weather, Pombo said in the past 2 weeks he has seen 3 cases of babesiosis and another of anaplasmosis in November [2013]. Like malaria, which is also caused by a parasite, babesiosis can be relapsing and require additional treatment, Pombo said. "I'm still struggling to get rid of it," said [another woman from] Brewster. She, who also suffers from Lyme disease and anaplasmosis, said she was 1st diagnosed with babesiosis in 2006. 4 years later a test showed its staying power, said [this] woman, a nurse and patient advocate with Lyme Awareness of Cape Cod. "I'm still suffering with drenching night sweats, chills, neck pain," she said. She said her doctor is talking about treating her with a medicine called Coartem that is supposed to be good for resistant babesiosis.

The type of babesiosis transmitted by ticks to humans was 1st diagnosed in a previously healthy person in 1969 on Nantucket, according to Peter Krause of Yale University and Edouard Vannier of Tufts Medical Center. With more cases popping up in the 1970s, the illness became known as "Nantucket fever," the 2 reported in the New England Journal of Medicine in June 2012.

In addition to tick bites, babesiosis can be transmitted through blood transfusions. Brown said that workers at transfusion centers now ask patients if they've ever had babesiosis and are working on developing a screening method.

Last year [2012], 6 Massachusetts residents came down with babesiosis after receiving a blood transfusion or tissue or organ donation, according to the DPH.

Concerns about transfusion are growing as babesiosis cases increase.

Between 2008 and 2012 the number of babesiosis cases statewide shot up more than 4 times while cases on the Cape and Islands have more than tripled, the DPH says.

Anaplasmosis

Anaplasmosis also is on the increase. In 2008 there were 9 cases on the Cape and Islands, compared with 43 cases in 2012, according to state health officials. Statewide numbers rose about the same amount, going from 41 confirmed cases of anaplasmosis in 2008 to 237 in 2012, the DPH reports.

Anaplasmosis has the distinction among tick-borne illnesses of being most prevalent in the Berkshires rather than the humid coastal areas.

The incidence rate in the western part of the state is almost 23 percent per 100 000 people, compared to about 18 percent on the Cape and Islands, which comes in second for prevalence. Anaplasmosis is a bacterial infection that attacks white blood cells. Symptoms include headache, muscle ache, fatigue, fevers, chills, and weakness, Pombo said. "I've seen people come in with gastrointestinal symptoms like diarrhea and vomiting," he said.

It's important for Cape residents to reduce exposure to ticks by using repellents on clothing and skin and doing tick checks, according to Pombo.

Babesiosis and anaplasmosis are diagnosed through tests including blood smears, serology studies and polymerase chain reaction analyses of DNA, Brown said.

Labs report positive tests to the DPH, which then direct local boards of health to follow up on patient conditions, she said. It's possible there are more deaths from anaplasmosis and babesiosis than the state has reported, Brown said. "We don't always have complete information on that."

Over the past 5 years, [the 1st woman from Brewster] said she has met many people diagnosed with babesiosis, including a woman she employed to help with her garden. [She] herself was treated for the illness for 6 days at Cape Cod Hospital in August 2012 -- 4 years to the day after her husband's death. She said she called an ambulance after a doctor dismissed her health complaints as "the summer flu." "Everybody should be more aware. Nobody has to be afraid," she said. "The later you are diagnosed the more at risk you are. I was diagnosed in time, and I didn't die."

Doctors treat babesiosis with atovaquone, which goes under the brand name Mepron in the US. It is combined with an antibiotic such as azithromycin.

Anaplasmosis is treated with the same antibiotic used to knock down Lyme disease, doxycycline.

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[Both babesiosis and anaplasmosis are zoonotic infections transmitted to humans by ticks from the animal reservoir. As stated in the article, clinical cases are most common in people over 60 and in immunosuppressed, and infection in an asymptomatic person can be transmitted by blood transfusion. Diagnosis is based on a mixture of specific antibody tests, detection of specific nucleic acid (DNA) by polymerase chain reaction (PCR), and microscopy of thick and thin blood films. The PCR method probably has the highest sensitivity.

The most important factor for the correct diagnosis is that physicians are aware that babesia and anaplasma infections may be a possibility in patients with fever of unknown origin and anemia and thrombocytopenia should further raise the suspicion to these infections.

It is difficult if not impossible to control the tick population and reduce the zoonotic reservoir. Repellants are less effective against ticks compared to mosquitoes. - Mod.EP

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