LYME DISEASE - USA (05): CARDITIS, FATAL

A ProMED-mail post
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Source: Fox News [edited]
<http://www.foxnews.com/health/2013/12/13/sudden-deaths-3-young-people-attributed-to-lyme-disease-cdc-says/>

The sudden deaths of 3 young people in the Northeast [of the USA] have been attributed to complications of Lyme disease, Boston.com reported.

According to the Centers for Disease Control and Prevention (CDC) [1], each of the fatalities resulted from undetected heart inflammation -- also known as carditis -- caused by the tick-borne illness. About one percent of Lyme disease sufferers develop carditis, which is typically treatable with antibiotics or, in some cases, a pacemaker.

According to medical reports, only 4 other deaths can be attributed to heart inflammation caused by Lyme disease. While the illness is a growing problem in the Northeast, the CDC says that deaths related to the disease are still rare, Boston.com reported.

The victims in the CDC's report were not identified, but each of the deaths occurred between November 2012 and July 2013. The deceased were between 26 and 38 years old. None of the victims had been diagnosed with Lyme disease prior to their deaths.

One of the victims died in a car accident after his car veered off the road. The victim was an organ donor, and the inflammation around his heart was discovered during a pathology exam. It is believed he went into cardiac arrest while driving, Boston.com reported. The other 2 victims also died after seemingly unexplainable collapses.

Medical professionals say these deaths should bring new urgency to the search for a Lyme disease vaccine. "I think it is unconscionable and a discredit to all parties -- public health, manufacturers, Lyme activists -- that no Lyme vaccine is available to humans while there is one for dogs," Stanley Plotkin, emeritus professor of pediatrics at the University of Pennsylvania and a vaccine expert, told Boston.com in an email.

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Lyme carditis is a manifestation of early disseminated Lyme disease, which results in secondary skin lesions and extracutaneous manifestations that occur during the initial weeks to months of infection. Symptoms related to this stage occur in at least 50 percent of all untreated patients. Carditis has been reported in up to 10 percent of cases of Lyme disease and can cause life-threatening cardiac conduction abnormalities that can result in sudden death. The diagnosis is made primarily on clinical grounds and confirmed by serologic testing. Patients who have severe heart block with hemodynamic instability frequently need placement of a temporary cardiac pacemaker. The cardiac conduction block resolves completely with antibiotic treatment.

The recent CDC publication, which the news release above refers to (reference 1 above), describes 3 individuals who experienced sudden cardiac death during November 2012-July 2013 and were found to have evidence of Lyme carditis on postmortem examination. To quote from this article (references omitted, available from the original article):

" _Borrelia burgdorferi_ has been shown to affect all layers of the heart, but tends to spare the great vessels and heart valves. Inflammation is characteristically diffuse, perivascular, lymphohistiocytic, and plasma cell-rich. Spirochetes can be found within the myocardial cellular infiltrates; IHC [immunohistochemistry] and PCR [polymerase chain reaction] testing can provide additional evidence of infection. Although Lyme carditis usually is present in conjunction with other features of the disease, such as erythema migrans, arthritis, or neurologic disease, it can be observed independently. The most common cardiac manifestation is atrioventricular block, which can fluctuate between 1st, 2nd, and 3rd degree. 2nd-degree or 3rd-degree atrioventricular block occurs in approximately 0.8 percent of all Lyme disease cases reported to CDC. Symptoms of atrioventricular block, including lightheadedness, palpitations, shortness of breath, chest pain, and syncope can occur 4 days to 7 months after onset of disease, with a median of 21 days. With appropriate therapy, prognosis is excellent, and signs of cardiac involvement typically resolve within 1-6 weeks, depending on the degree of conduction disturbance. Some cases of complete heart block might require temporary pacing."

For discussions of Lyme disease in the US, see prior ProMED-mail posts: Lyme disease - USA (04): underreporting 20130822.1894924; Lyme disease - USA (03): (NY) increased incidence 20130513.1710851; Lyme disease - USA: (PA, NJ) increased incidence 20120423.1111304; Lyme disease - USA (03): (WI), human, canine 20110618.1867; Lyme disease - USA (02): (PA) background 20110606.1727; and Lyme disease - USA: (PA, WI) increased incidence 20110603.1694.
For pictures of ticks and erythema migrans lesions characteristic of Lyme disease, see <http://cid.oxfordjournals.org/content/43/9/1089.full> and <http://www.cdc.gov/lyme/>. - Mod.ML

A HealthMap/ProMED-mail map can be accessed at: <http://healthmap.org/r/1hiS>.