

Study identifies 189 children with Lyme carditis

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In their article addressing the heart and Lyme disease [“Increasing Burden of Lyme Carditis in United States Children's Hospitals.”](#) Beach et al.¹ reveal the rise in Lyme carditis cases throughout the U.S. The largest increases, they write, were found in the Midwest, including the Ohio valley.

According to the authors, the children with Lyme carditis were older than children with Lyme disease, who did not have Lyme carditis. On average, they were 13 years old and more likely to be male.

“Encounters for Lyme carditis are dramatically costlier than those for Lyme disease without carditis,” the authors explain. In fact, the median cost of treating a child with Lyme carditis was \$9,104 with a range of \$3,741 to \$19,003. The median cost of treating a child with Lyme disease without Lyme carditis was \$922 with a range of \$238 to \$4,987.

None of the 189 children identified in the database died. However, the database did not include out-of-hospital outcomes for children with heart problems and Lyme disease.

In the study, there was a broad range of cardiac codes identified among the 189 children. The authors could not be sure of the accuracy of the cardiac codes or whether there were pre-existing cardiac cases.

The list of cardiac cases is much broader than heart block, as identified in the Centers for Disease Control and Prevention’s (CDC) surveillance case definition.

Cardiac codes for 189 children with Lyme carditis

Out of the 189 children, cardiac codes identified in the database included:

- First degree AV block – 28%
- Acute myocarditis – 27%
- Complete AV block – 17%
- Second degree AV block – 15%
- Heart disease NOS – 9%
- Non-specific ECG abnormality – 4%
- Cardiomyopathy – 4%
- Premature beats – 3%
- Right bundle branch block – 3%
- Acute pericarditis – 2%
- Atrial fibrillation/flutter – 2%
- Suspected cardiovascular disease – 2%
- Paroxysmal ventricular tachycardia – 2%
- Cardiac arrest - 2%

Congestive heart failure NOS – 2%
Conduction disorder NOS – 1%
Left bundle branch block – 1%
Anomalous AV excitation – 1%
Paroxysmal supraventricular tachycardia – 1%
Paroxysmal tachycardia – 1%
Pericardial disease NOS – 1%
Other cardiac dysrhythmias – 38%

Additional costs

The authors were not able to address other costs due to Lyme carditis. “In addition to this financial burden, it is important to consider the additional costs of missed school and work, long-term morbidity, and emotional distress when considering the importance of preventing, diagnosing, and treating Lyme carditis,” writes Beach.

“The increasing number of serious cardiac events and costs associated with Lyme disease emphasize the need for prevention and early detection of disease and control of its spread,” the authors conclude.

Related Articles:

[Lyme carditis presenting as atrial fibrillation treated successfully](#)

[Five cases of Lyme carditis in Canada: multiple hospital visits to diagnose](#)

[Lyme disease induces severe cardiac problems in 15 year old boy](#)

References:

1. Beach CM, Hart SA, Nowalk A, Feingold B, Kurland K, Arora G. Increasing Burden of Lyme Carditis in United States Children's Hospitals. *Pediatr Cardiol*. 2019 Nov 14.

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