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Ensuring Adequate Recognition and Care for Lyme Disease

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Ensuring Adequate Recognition and Care for Lyme Disease

Menna Awadalla

Rotation #3: Family
Medicine

Site: New Milford, CT

Mentor: Dr. Peter
Anderson

Problem Identification



Lyme disease is the most commonly reported tick borne illness in the United states



The increasing population of deer in the northeastern United States has increased the risk of exposure to infected ticks, making Lyme a much more prevalent issue



Without prompt recognition and treatment, Lyme disease can lead to much more severe complications such as

- Lyme arthritis
- Lyme carditis
- Lyme encephalitis
- Bell's palsy

Cost considerations

- ▶ *Adrion et al.* of Johns Hopkins University Bloomberg School of Public Health demonstrated that:
 - ▶ Lyme disease costs the U.S. health care system between \$712 million and \$1.3 billion a year
 - ▶ On average, people with Lyme disease cost the system \$2,968 more than matched controls.

Community perspective

- ▶ “Lyme disease is very common in our area and we have a lot of people coming in for treatment or evaluation of treatment for possible Lyme. Knowledge is power—People need to know what this disease is really like and when to come in!”

~Dr. Peter Anderson, Department of Family Medicine, New Milford CT

- ▶ “People aren’t aware of the multiple types of illnesses that can be transmitted by ticks in our area. We need to provide clear information about this without confusing people. So many people are afraid of Lyme and we need to help dispel this fear.”

~Barbara Golankiewicz, Department of Family Medicine, New Milford CT

Intervention & Methodology

In order to raise awareness and help patients gain understanding of Lyme disease, this project focuses on creating a short poster to be hung in all patient rooms and waiting room as well as a longer, more in depth handout that will be placed in all patient rooms

The poster and handout method was chosen considering the amount of time patients spend in waiting rooms and patient rooms until their encounter formally begins



Data & Responses

- ▶ “I love the graphics, it gets peoples’ attention and makes them want to read the rest”
- ▶ “Concise, specific, without being overbearing”
- ▶ “Helpful to those with vague symptoms”
- ▶ “Provides awareness regarding Lyme and other tick borne illnesses”
- ▶ “Important info especially to people who are new in town”
- ▶ “The content about prophylaxis is incredibly valuable”

LYME TIME

Awareness and prevention of Lyme disease

What's the deal with this rash?

Shimmying Lyme
Stagnant Red Lyme

Erythema migrans (EM) can present itself in many different forms

Disseminated Lesions
Bull's-eye (Target) Central Clearing Lesions
Blue-Flag Lesions

Classic signs & symptoms

- fever
- fatigue
- muscle aches
- joint pain
- swollen lymph nodes
- headache
- stiff neck
- facial drooping
- blurred vision

Get to know your local ticks!

Make an appointment to see your doctor if you notice:

- ❖ An EM rash (shown above) that is >2 inches in diameter with or without symptoms
- ❖ Recently removed an engorged tick that was there for unspecified duration
- ❖ Flu-like symptoms after a known tick bite or potential tick exposure

Important notes to keep in mind:

Regarding the EM rash:

- ❖ Occurs in ~70-80% of patients
- ❖ Not usually painful or itchy
- ❖ The rash will usually form at the site of bite within 3-30 days and gradually enlarge
- ❖ The rash does not always have to look like a classic bullseye with central clearing, but it can take on that shape as it grows
- ❖ For a rash to be considered an EM rash it should be equal to or greater than 2 inches in diameter

Most times, people do not recall the tick bite that resulted in the illness! Unfortunately, Lyme disease is not a condition that can resolve on its own. Without proper treatment with antibiotics you are at greater risk of developing complications listed below:

- ❖ Lyme carditis
- ❖ Lyme encephalitis
- ❖ Lyme arthritis
- ❖ Bell's palsy

Tick bite prophylaxis:

- ❖ You may meet the criteria for prophylaxis against Lyme if:
 - The tick was attached for ≥36 hours (consider time of exposure or the level of engorgement)
 - The tick removed is an adult or nymph deer tick (*I. scapularis*)
- ❖ Prophylaxis protocol:
 - Prophylaxis is a single dose of 200mg Doxycycline for an affected adult
 - 4.4 mg/kg of Doxycycline for a child age 12 and up
 - 72 hours or less since tick removal

Local tick-borne illnesses to be aware of:

Anaplasmosis	Babesiosis	Ehrlichiosis	Rocky mountain spotted fever	Lyme
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Evaluation of effectiveness/limitations

- ▶ Effectiveness of this project can be evaluated over time by creating short surveys for patients at the end of their visit.
 - ▶ These surveys should be administered to all patients regardless of whether or not they are coming in for an evaluation of Lyme
 - ▶ The goal of the survey is to assess whether people are actually noticing and reading the posters and whether they found them helpful or not
- ▶ Limitations
 - ▶ By only having the handouts and posters in the offices we are limiting exposure of this vital information only to patients in the New Milford office
 - ▶ Many people choose their phone as entertainment while waiting for the physician, thus, that makes it less likely for those folks to notice the poster

Recommendations for future interventions

- ▶ In order to continue to increase exposure and awareness regarding this issue, future projects can:
 - ▶ Work to distribute these posters and handouts throughout the community
 - ▶ Create short presentations and give them at public libraries, schools, and local community centers in the area (ex: YMCA)

References

Adrion ER, Aucott J, Lemke KW, Weiner JP (2015) Health Care Costs, Utilization and Patterns of Care following Lyme Disease. *PLoS ONE* 10(2): e0116767. <https://doi.org/10.1371/journal.pone.0116767>

“Doctor with Patient, Lyme Disease .” *123RF*, nlshop1, www.123rf.com/photo_52578649_doctor-with-patient-lyme-disease.html.

Forrester JD, Meiman J, Mullins J, et al. Notes from the field: update on Lyme carditis, groups at high risk, and frequency of associated sudden cardiac death--United States. *MMWR Morb Mortal Wkly Rep* 2014; 63:982.

Lyme, Bay Area. “Does Everyone Get the Telltale Bullseye Rash?” *Bay Area Lyme Foundation*, 21 Oct. 2014, www.bayarealyme.org/blog/lyme-disease-bullseye-rash/.

Nadelman RB, Nowakowski J, Forseter G, et al. The clinical spectrum of early Lyme borreliosis in patients with culture-confirmed erythema migrans. *Am J Med* 1996; 100:502.

Rosenberg R, Lindsey NP, Fischer M, et al. Vital Signs: Trends in Reported Vectorborne Disease Cases - United States and Territories, 2004-2016. *MMWR Morb Mortal Wkly Rep* 2018; 67:496.

“Signs and Symptoms of Untreated Lyme Disease | Lyme Disease | CDC.” *Centers for Disease Control and Prevention*, Centers for Disease Control and Prevention, www.cdc.gov/lyme/signs_symptoms/index.html.

Spielman A, Wilson ML, Levine JF, Piesman J. Ecology of Ixodes dammini-borne human babesiosis and Lyme disease. *Annu Rev Entomol* 1985; 30:439.

Steere AC, Sikand VK. The presenting manifestations of Lyme disease and the outcomes of treatment. *N Engl J Med* 2003; 348:2472.

“Tick-Borne Diseases.” *Tick Borne Disease - Town of Fairfield, Connecticut*, www.fairfieldct.org/ticks.

Wormser GP, Dattwyler RJ, Shapiro ED, et al. The clinical assessment, treatment, and prevention of Lyme disease, human granulocytic anaplasmosis, and babesiosis: clinical practice guidelines by the Infectious Diseases Society of America. *Clin Infect Dis* 2006; 43:1089.

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Thank you for agreeing to be interviewed. This project is a requirement for the Family Medicine clerkship. It will be stored on the Dana Library ScholarWorks website. Your name will be attached to your interview and you may be cited directly or indirectly in subsequent unpublished or published work. The interviewer affirms that he/she has explained the nature and purpose of this project. The interviewee affirms that he/she has consented to this interview. Consented

Name: Dr. Peter Anderson

Name: Barbara Golankiewicz