



Clinical and epidemiological manifestations of Lyme disease in Hispanics admitted to a tertiary medical center in Long Island during 2010-2015

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INTRODUCTION

- Lyme disease (LD) is the most commonly reported vector-borne illness in the U.S., with an estimate of 30,000 people diagnosed with LD every year.
- Long Island's Hispanic population has grown dramatically in recent years, led by migrants from Latin America.
- A significant proportion of the workforce for outdoor employment (i.e. landscaping) in eastern Long Island is Hispanic, which places them at risk for acquiring LD.
- A recent study from the CDC showed that Hispanics were more likely than non-Hispanics to have signs of disseminated infection and onset during fall months.

OBJECTIVE

- We aim to describe the clinical presentation and epidemiological characteristics of LD in Hispanics (H) versus non-Hispanics (NH) who presented to Stony Brook University Hospital (SBUH) during the years of 2010-2015.

METHODS

- Study design:** A retrospective chart review was performed in all patients with ICD-9 or ICD-10 diagnostic codes for LD from January 2010 to December 2015.
- Ethnicity:** Persons self-identified as being of Hispanic ethnicity were included in the group H.
- Definitions**
 - Confirmed cases were defined by a clinical scenario compatible with LD (erythema migrans, arthritis, central nervous system (CNS) involvement, carditis) and serological confirmation by western blot according to CDC criteria.
 - CNS involvement was defined as abnormal CSF fluid analysis
- Charts review:** descriptive clinical and epidemiological information gathered and analyzed:
 - Demographic characteristics,
 - Past medical history
 - Symptoms on presentation
 - Outcomes

RESULTS

767 cases coded as LD per ICD-9 and ICD 10 between 2010-2015

232 met inclusion criteria

EXCLUSION CRITERIA (N=535)

- No serological evidence for Lyme
- No erythema migrans
- Reason for hospitalization was not Lyme
- History of Lyme disease
- Insufficient data
- Missing medical records
- Unable to find ethnicity

Table 1. Clinical and Demographical characteristics of study population

	Hispanics (H)	Non-Hispanics (NH)	p-value
Total (n = 232)	50	182	
Demographics			
Age – median in years (range)	50 (29-63)	52 (26-35)	0.7
Gender – n (%)			
Male	31 (13.3%)	94 (40.5%)	0.2
Female	19 (8.2%)	88 (38%)	
Clinical characteristics – n (%)			
Erythema migrans	21 (42%)	80 (43.9%)	0.8
Arthritis	5 (10%)	24 (13.2%)	0.5
Peripheral neuropathy including Bell's palsy	5 (10%)	37 (20.3)	0.09
CNS involvement	3 (6%)	18 (9.9%)	0.4
Lyme carditis	2 (4%)	6 (3.3%)	0.8

RESULTS

Table 2. Seasonal differences in disease onset between H and NH

Variables	OR	95% CI	P value
Disease onset during fall months	2.01	0.95-4.28	0.06
Disease onset during winter month	0.2	0.05-0.88	0.03

- ✓ H group was more frequently than the NH group to have disease onset during fall months.
- ✓ H group was less likely than NH group to have disease onset during winter months
- ✓ Most patients were diagnosed with LD in the summer (H:56%,NH:55.5%;p=0.9) and in the spring (H:14%, NH:12.6%;p=0.8).

CONCLUSION

- Hispanics diagnosed with LD at this tertiary medical center presented with similar syndromes from LD than non-Hispanics but the disease onset is more frequent during fall months than NH, in agreement with the recent CDC study.
- Additional studies are needed to clarify the underlying factors related to this epidemiological difference.

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