Joint Recruitment – A Phenomenon of New Onset Arthritis Following the Initiation of Antibiotic Therapy for Lyme Arthritis

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Introduction

sease (LD) Background:

se: Borrelia burgdorferi[1]

alence: Increasing in Canada, endemic in ral provinces (e.g., Nova Scotia)[1]

es:

Early LD: Erythema migrans or localized rash.

Early Disseminated LD: Disseminated rash, neurologic, and cardiac symptoms.

Late Disseminated LD: Lyme arthritis (LA)[2].

rithritis Overview:

non in children – often their first sign of LD[3]

ly monoarticular or oligoarticular, often the

cases resolve with treatment - 4 weeks of otics[4,5]

remain with arthritis despite antibiotics – Antibiotic Refractory Lyme Arthritis (ARLA)[5]

develop arthritis in new joints during ment – called "**joint recruitment**."

e unknown and not well studied[6]

Objectives

cribe the incidence of pediatric patients with LA experiencing joint recruitment

cribe the clinical course of patients with joint nt, including with quantitative statistics and a account of their respective clinical courses

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Methods

- Patients (<18 yo) with a diagnosis of LA (Jan 2008-Sept 2023) were identified from the pediatric rheumatology clinical database at IWK Health in Halifax, Nova Scotia.
- ***Inclusion criteria***: 1) pediatric patients (<18 years) who had a physician-confirmed diagnosis of LA; 2) seen in the IWK Pediatric Rheumatology Clinic since 2008; 3) experienced new onset arthritis following the initiation of appropriate antibiotic therapy
- ***Exclusion criteria***: 1) subsequent diagnosis of juvenile idiopathic arthritis 2) non-compliance to antibiotics 3) new onset arthritis attributable to another cause
- Case narratives were created and descriptive statistics were calculated

Results

5.7%

Joint recruitment

♂ 9 males

♀ 5 females

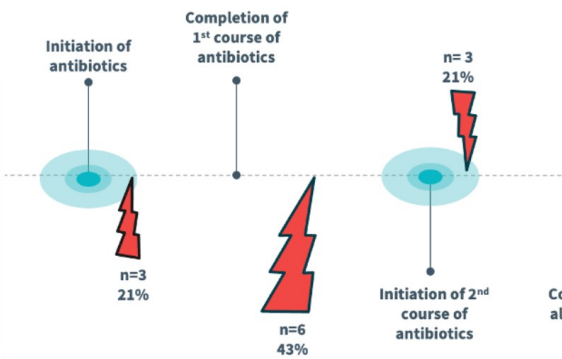
Mean age:

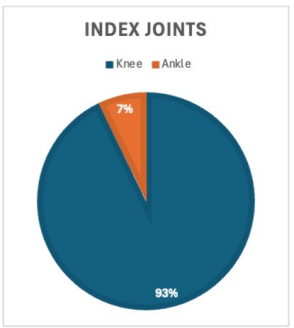
11.9

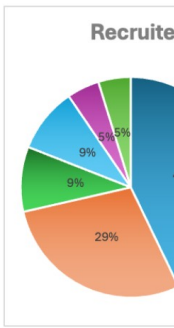
+/- 3.4 years

All patients were initially treated with a standard course of 28 days of oral antibiotics. When joint recruitment occurred, the index joint had resolved or improved in 9/14 (64%). 8/14 (57%) received another course of antibiotics at the time of joint recruitment; treatment for the remainder was variable (intraarticular steroid injection (IAS), NSAID, observation, synovectomy). All patients had complete resolution of their LA at last follow-up, except for one patient who, 6 months from initiation of antibiotics, continues to have ongoing arthritis in both the presenting joint and recruited joint following 3 months of antibiotics (2 courses oral, 1 course ceftriaxone) and IAS of affected joints (knee, ankle).

Results







Conclusion

The study aims to raise awareness aro cases of LA in children. To our knowle the first study to report the incidence (5 recruitment. Overall, patients had exce outcomes despite different treatment a It is unclear as to whether joint recruitm driven by persistent active infection ver dysregulation triggered by infection, the hypothesized to be the underlying mec post-infectious LA.