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RHEUMATOLOGY BOARD REVIEW MANUAL

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Lyme Disease

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Table of Contents

Introduction	2
Early Lyme Disease	2
Lyme Arthritis.	7
“Chronic” Lyme Disease	10
References	12
Suggested Readings	12

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Lyme Disease

INTRODUCTION

Lyme disease is currently the most common vector-borne disease in the United States. In 1998, more than 16,000 new cases were reported to the Centers for Disease Control and Prevention (CDC), and this figure likely underestimates the actual number of cases that occurred. Lyme disease is caused by 3 genospecies of the spirochete *Borrelia*: *Borrelia burgdorferi*, *Borrelia garinii*, and *Borrelia afzelii*. These are collectively referred to as *Borrelia burgdorferi sensu lato*. *B. garinii* and *B. afzelii* are the etiologic agents of Lyme disease in Europe, while *B. burgdorferi* causes Lyme disease in North America. Throughout this article, the term *B. burgdorferi* (Bb) will refer to the specific genospecies or to *B. burgdorferi sensu lato*.

Lyme disease is a disease of protean manifestations. Its clinical stages are well described, but atypical presentations continue to appear in the published medical literature. This manual discusses the varied clinical presentations of Lyme disease, appropriate use of available diagnostic tests, and recommended treatment strategies.

EARLY LYME DISEASE

INITIAL PRESENTATION

A 29-year-old woman presents to her primary care physician in June with a 5-day illness consisting of fevers, chills, and an erythematous, swollen thigh.

HISTORY

The patient explains that approximately 5 days ago she began feeling very tired, had a poor appetite, and experienced chills and myalgias. Three days ago, she developed intermittent fevers ranging from 100° to 101°F, occasional headaches, and worsened myalgias. Yesterday, she noticed a red “swollen” patch of skin on her

left outer thigh that was pruritic and had a “burning sensation.” She denies any trauma to the area or any prior similar occurrences.

The patient’s past medical history is significant only for seasonal allergies and childhood asthma. She has no medication allergies, and her only medication is cetirizine. The patient is married, has no children, works as a retail store manager, and lives in Denver, Colorado. She has 2 cats and 1 dog. She denies tobacco use and illicit drug use, and drinks 2 to 4 glasses of wine weekly. She is sexually active solely with her husband and believes he is monogamous. Four weeks ago, she and her husband returned from a 10-day vacation in Rhode Island.

PHYSICAL EXAMINATION

Physical examination reveals a tired-appearing woman with an oral temperature of 100.9°F, pulse of 100 bpm, and blood pressure of 112/74 mm Hg. She has no photophobia or mucosal lesions. Her neck is supple, and there is no palpable lymphadenopathy. Examination of the heart, lungs, and abdomen are unremarkable. Skin examination reveals a 7 × 12 cm, ill-defined, erythematous area involving her left lateral thigh extending from the hip to mid-thigh and from the groin laterally. The borders are not raised, and the area is very warm and mildly tender. Left calf tenderness, hip, ankle or knee joint abnormalities, or pretibial edema are not present. The rest of the skin examination is unremarkable.

- What is the differential diagnosis?

DISCUSSION

Differential Diagnosis

The skin involvement described in this patient is consistent with contact dermatitis, ringworm, cellulitis, or erythema migrans (EM). The patient should be queried about any exposures to new soaps, perfumes, clothing, or other environmental risks associated with a focal contact dermatitis and any exposures to children,