

28th

ECCMID

Madrid, Spain

21 – 24 April 2018



ESCMID

EUROPEAN SOCIETY OF CLINICAL
MICROBIOLOGY AND INFECTIOUS DISEASES

CLINICAL GRAND ROUNDS

FATIMA I. ADHI, MD

FELLOW, INFECTIOUS DISEASES
NEW YORK UNIVERSITY SCHOOL OF MEDICINE

Chief complaint

68 female

Severe fatigue, weight loss (~3 kgs)

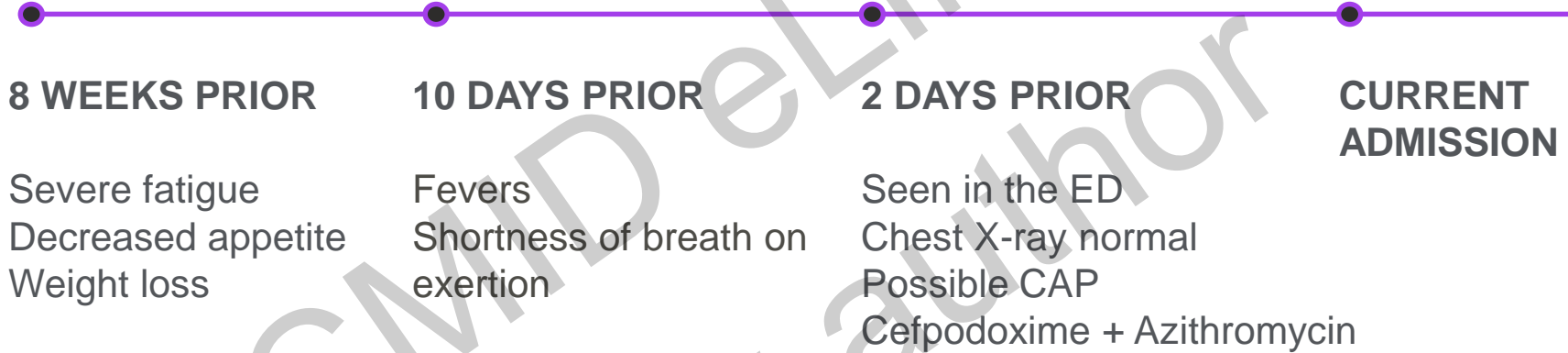
x 8 weeks

+

Daily fevers x 10 days



Case Description



Review of systems

Reddish tinge to the urine
(intermittently)

Past Medical and Surgical History

Mitral valve prolapse
Mild intermittent Asthma

Social and Exposure History

Lives in Manhattan
No pets
Former news reporter (desk job)

1 week prior to onset of fevers, visited a friend with severe bronchitis

Travel history

Within the state: NY - Rochester, Syracuse, Upstate (Columbia county)
Within USA: Miami, FL. Boston, MA. Washington, DC.
Outside of USA: Guyana, Russia, UK, France (last ~4 years ago)

Physical Examination

Tired appearing

Febrile 39.3°C

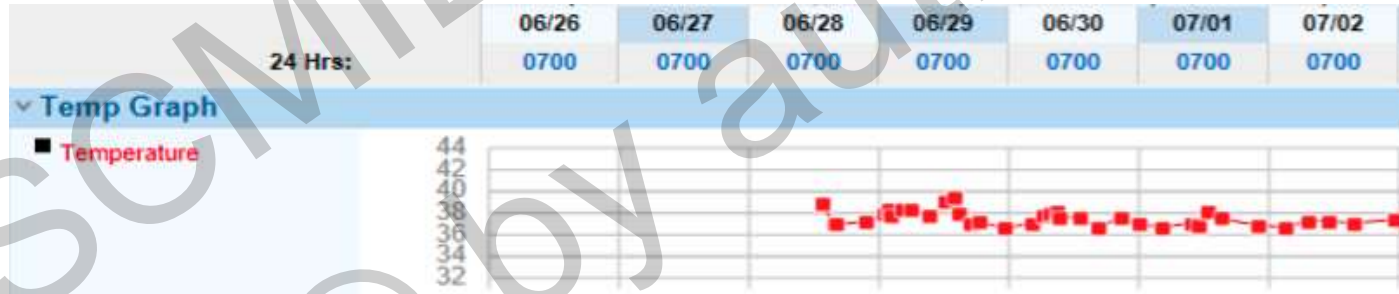
General and systemic exam otherwise unremarkable

TEST	2 DAYS PRIOR	DAY 0
Hemoglobin g/L (140-175)	122	<u>102</u>
Hematocrit % (41-50)	37.2	<u>31.6</u>
WBC ×10 ⁹ /L (4.5-11)	4.6	<u>3.5</u>
Neutrophils %	56	36
Lymphocytes %	29	45
Platelets ×10 ⁹ /L (150-	62	79

TEST	2 DAYS PRIOR	DAY 0
AST U/L (10-30)	39	<u>80</u>
ALT U/L (10-40)	51	<u>84</u>
T. bilirubin μmol/L (5-21)	17.1	13.7
Alk Phos U/L (30-120)	117	106
Creatinine μmol/L (53-106)	61.9	53

Hospital course

- Antibiotics changed
 - Vancomycin + Piperacillin/Tazobactam
- Continued to be febrile



Further investigations

Urine analysis was normal

Urine culture without any growth

Blood cultures without any growth

Transthoracic echocardiogram

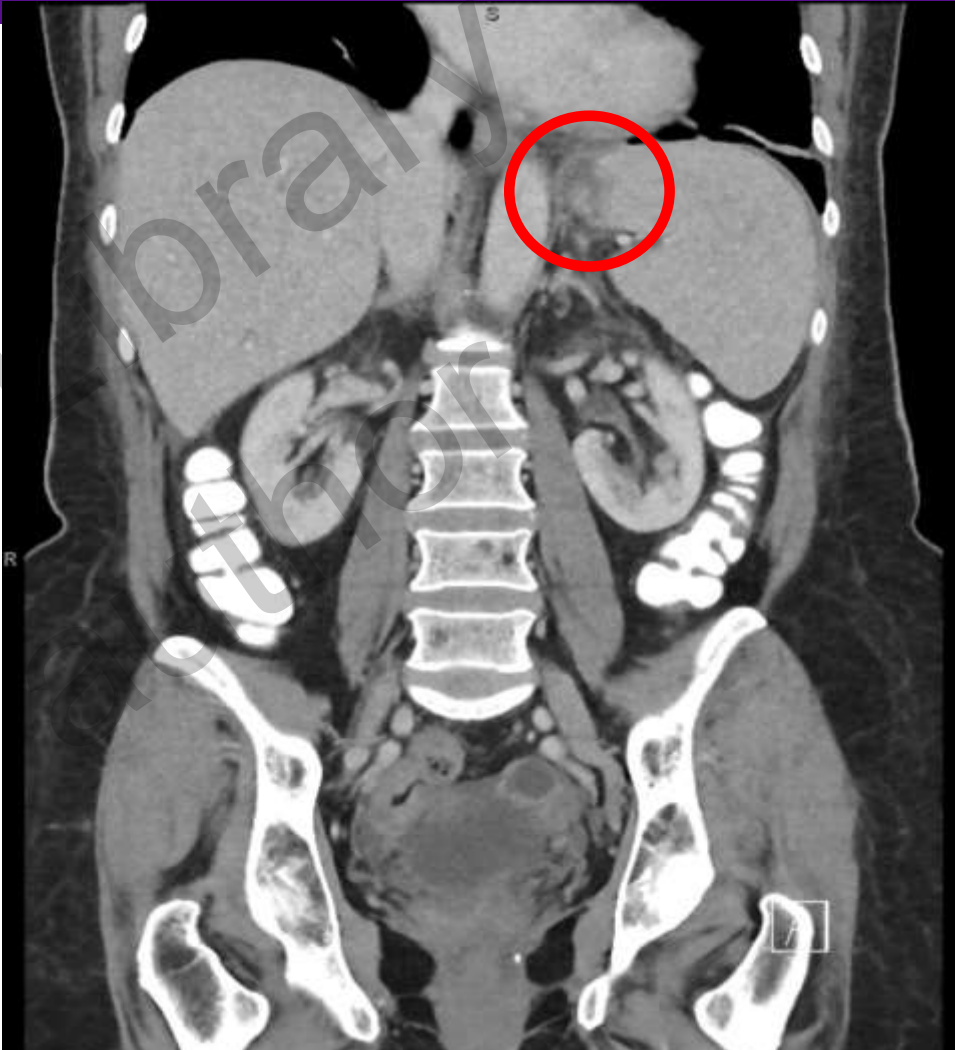
- No evidence of endocarditis

Imaging

CT chest without contrast

- No evidence of pulmonary disease

CT abdomen / pelvis - Splenomegaly



ECCMID PANEL DIFFERENTIAL DIAGNOSIS

Hospital course

Hematology / Oncology consult

Concern for malignancy

EBV and CMV PCR

Recommended ID consultation

Social and Exposure History

Had been reviewing archived papers from old boxes previously flooded

Mold growth

Often visits her home in Upstate New York

Wooded area, lots of animals in the surroundings

Mosquito bites, no other insect bites

Enjoys gardening

BABESIOSIS

PARASITEMIA 0.4%



Hospital course

Treatment	Dose
Atovaquone and azithromycin†	
Atovaquone	Adult, 750 mg; pediatric, 20 mg/kg (maximum, 750 mg/dose) every 12 hr
Azithromycin	Adult, 500 mg on day 1 and 250 mg on subsequent days; pediatric, 10 mg/kg (maximum, 500 mg/dose) on day 1 and 5 mg/kg (maximum, 250 mg/dose) on subsequent days
Clindamycin and quinine	
Clindamycin	
Oral	Adult, 600 mg every 8 hr; pediatric, 7–10 mg/kg (maximum, 600 mg/dose) every 6–8 hr
Intravenous	Adult, 300–600 mg every 6 hr; pediatric, 7–10 mg/kg (maximum, 600 mg/dose) every 6–8 hr
Quinine	Adult, 650 mg every 6–8 hr; pediatric, 8 mg/kg (maximum, 650 mg/dose) every 8 hr

WOULD YOU DO ANYTHING DIFFERENTLY?

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 **NYU Langone
Health**

Further investigations

Babesia serology not tested

***Babesia microti* identified by PCR**

Lyme antibody negative

Buffy coat negative for HGA inclusions

Anaplasma antibodies

IgG >1:1280 (normal 1:16)

IgM <1:16



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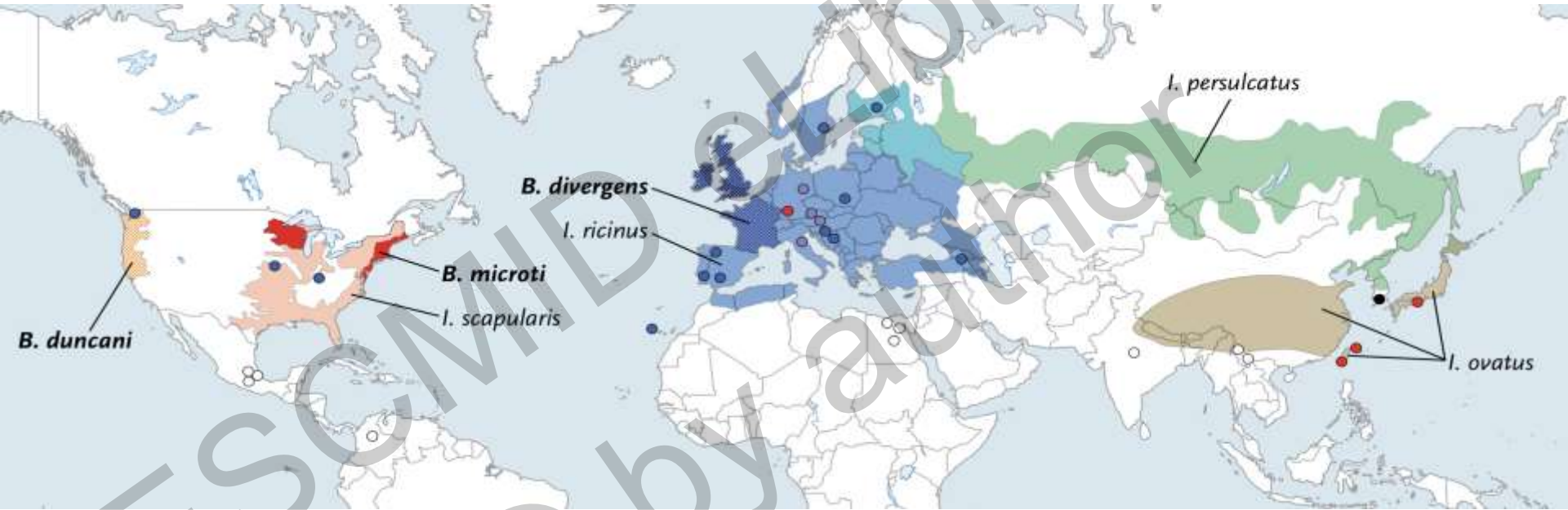
IgG >1:1280 (normal 1:16)

IgM <1:16

Also treated with Doxycycline x 10 days



Epidemiology



Clinical features

Finding	Patients with babesiosis* (n = 34)	Control patients* (n = 44)	p ^b
WBC count × 10 ⁹ cells/L	9.0 ± 1.0	7.6 ± 0.8	.3
Hemoglobin level, g/dL	10.0 ± 0.4	11.4 ± 0.3	.06
Hematocrit level, %	29.7 ± 1.1	33.2 ± 1.0	.2
Platelet count, × 10 ⁹ cells/L	91.8 ± 9.8	187.7 ± 14.9	<.003
Atypical lymphocytes, %	2.5 ± 0.5 ^c	2.5 ± 0.6 ^b	.7
Urea level, mg/dL	24.8 ± 3.5	18.8 ± 1.9	.06
Creatinine level, mg/dL	1.3 ± 0.2	1.5 ± 0.3	.9
Aspartate aminotransferase, U/L	120.7 ± 22.7	50.2 ± 13.6	.003
Alanine aminotransferase, U/L	99.2 ± 17.1	51.8 ± 7.3	<.003

TABLE 2. SYMPTOMS OF ACUTE ILLNESS IN SUBJECTS WITH *BABESIA MICROTI* INFECTION.*

SYMPTOM	ATOVAQUONE AND AZITHROMYCIN (N=40)	CLINDAMYCIN AND QUININE (N=18)
	percent of subjects	
Start of therapy		
Fever	92	94
Fatigue	92	89
Sweats	80	89
Muscle aches	80	83
Headache	78	83
Chills	75	89
Anorexia	75	83
Neck stiffness	52	44
Emotional lability	52	44
Cough	50	50
Nausea	45	61
Joint pain	45	61
Sore throat	38	17
Vomiting	20	22
Conjunctivitis	12	6
Joint swelling	10	11
Splenomegaly	2	6

Splenic Infarction in Human Babesiosis: Two Cases and Discussion

Diana Florescu,^{1,2,3*} Peter P. Sordillo,¹ Andrew Glyptis,^{1,2} Elmela Zlatanovic,¹ Barbara Smith,¹ Bruce Polsky,^{1,2,3} and Emilia Sordillo^{1,2,3}

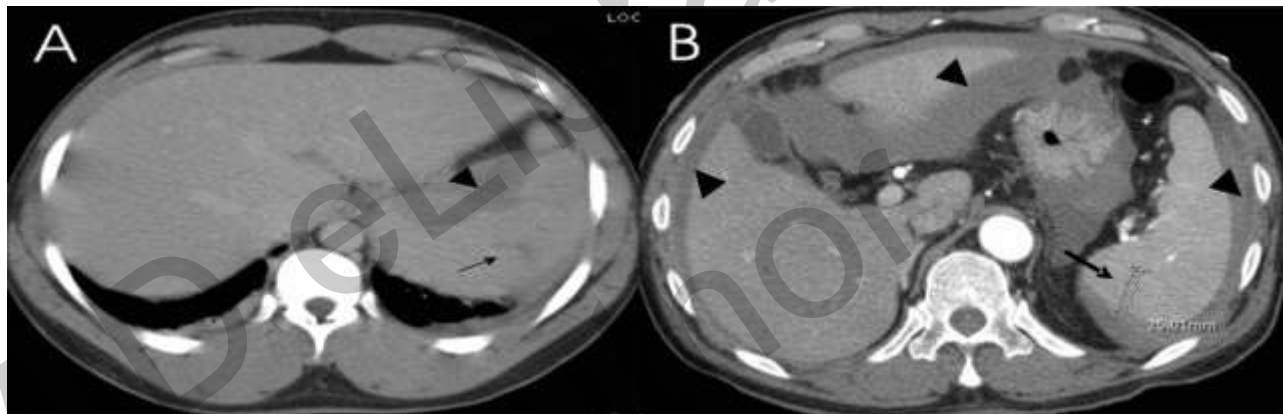
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Non-surgical management of spontaneous splenic rupture due to *Babesia microti* infection

Marc Y. El Khoury^{1,4,*}, Roshni Gandhi^{1,4}, Patricia Dandache^{1,4}, Gary Lombardo^{1,4}, Gary P. Wormser^{1,4}

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Summary of previous and current reports of *B. microti* related splenic rupture.

References	Kuwayama and Briones (2008)	Froberg et al. (2008)	Wormser et al. (2011)	Tobler et al. (2011)	Abbas et al. (2011)	Case 1	Case 2
Age (y)/gender	61/M	56/M	55/M	54/M	23/M	36/M	70/M
Comorbidities	None	None	None	None	None	None	None
Geographic location	New Jersey ^a	Minnesota ^a	Rhode Island ^a	Massachusetts ^a	Connecticut ^a	NY ^a	NY ^a
Initial parasitemia	5%	NS	<0.1%	3%	30%	4%	8%
Splenectomy	Yes	Yes	Yes	No	No	No	No ^b
Outcome	Healthy at 1 month	Healthy at 12 months	Healthy at 8 months	Healthy at 6 weeks ^c	Healthy at 36 months ^c	Unavailable	Healthy at 3 months

Take home points

- ① Consider Babesiosis as a differential for fever without any localizing symptoms
- ② Splenic complications including splenomegaly and/or splenic infarcts may be presenting features of Babesiosis
- ③ The vector for Lyme disease, Babesiosis and Anaplasmosis is the same in the Northeast region of USA – screen for all!

THANK YOU



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