Partners HealthCare System, Inc
MASSACHUSETTS GENERAL HOSPITAL
A Teaching Affiliate of Harvard Medical School
55 Fruit Street, Boston, Massachusetts 02114

[redacted]

Notes from 5/1/2015 through 5/16/2015 (cont)

05/13/2015 **Infectious Disease Attending Addendum** **Final** [redacted]

[redacted]

Signed 05/13/2015 15 53
Visit Date 05/13/2015

I have seen and examined [redacted] nd I have discussed his case w[redacted] agree with the findings and plan of care as documented in his note, with the following additions, modifications, and emphasis

- We are consulted by [redacted] for the infectious evaluation of acute myopericarditis.
[redacted] s a 38 year-old man with no chronic medical problems who was admitted to the hospital on May 11, 2015 with myopericarditis. Exposures include a trip to Colorado beginning on May 6, 2015 He became symptomatic the following day with malaise, sore throat, and myalgias He is feeling better today, with decreased headache and sore throat and resolution of his chest pain He says his daughter has now been confirmed to have streptococcal pharyngitis.
- On examination, the distal tip of his tongue appears somewhat denuded, and his neck is supple without meningismus. A spleen tip is palpable. There are no septic spots on his hands or feet.
- Laboratory studies are notable for a normal creatinine, total bilirubin 2.0, direct bilirubin 0 7, LDH 382, AST 97, normal ALT and alkaline phosphatase, WBC 4.31 (absolute lymphocyte count 360), HCT 45, platelets 129, ESR 26, CR 192, non-reactive HIV 1/2 antibody/antigen. Blood cultures are negative so far, and a respiratory virus panel is pending Influenza PCR is negative
-A chest radiograph (reviewed by me) shows an enlarged heart and either pulmonary edema or atypical pneumonia A transthoracic echocardiogram shows an ejection fraction of 57% and no pericardial effusion

In summary, [redacted] is a 38 year-old man with no chronic medical problems admitted with a troponin elevation and ECG changes in the context of sore throat, malaise, and fevers. This is likely a viral illness The range of viruses that can cause such a syndrome is large; pathogens that deserve specific mention include Epstein-Barr virus, cytomegalovirus, and enteroviruses. A tick-borne infection is less likely, although Lyme is a consideration given the apparent cardiac involvement. Ehrlichia/anaplasma would be much less likely to affect the heart but could account for his headache, fevers, and cytopenias There are several reasons that RMSF is an unlikely cause of this patient's illness. He does not have a good exposure history (RMSF being rare in the Rockies and much more common in the southeastern US) Also, myocarditis would be a very rare manifestation of RMSF. I do not think his illness is consistent with group A streptococcal infection (i.e., people with purulent pericarditis from GAS are typically much sicker), but it is notable that his daughter was just confirmed to have streptococcal pharyngitis. We would test for EBV, CMV, Lyme, and Ehrlichia/Anaplasma and continue empiric doxycycline for now I would also send a throat culture for group A Streptococcus.

[redacted]

Partners HealthCare System, Inc
MASSACHUSETTS GENERAL HOSPITAL
A Teaching Affiliate of Harvard Medical School
55 Fruit Street, Boston, Massachusetts 02114

[redacted]

Notes from 5/1/2015 through 5/16/2015 (cont)

05/12/2015 **SDU Admission Note** **Preliminary** [redacted]

[redacted]

Status. Preliminary
Visit Date. 05/12/2015

MASSACHUSETTS GENERAL HOSPITAL

SDU Admission Note

[redacted]

CHIEF COMPLAINT:

HISTORY OF PRESENT ILLNESS:
This is a 38yo man with no significant PMH, now presenting with malaise, fatigue, headache, insomnia, anorexia, and chest discomfort.

Briefly, he traveled to Denver, Colorado on 5/6 with his wife and 2yo son for a family wedding. They further traveled to a relatively rural/wilderness area at 11,000ft elevation. He was in his USOH before leaving. On 5/7 he began developing malaise, mild sore throat, and diffuse myalgias. These symptoms worsened and he developed a waxing and waning headache, shortness of breath (especially with exertion), and insomnia. He developed upper back pain with some radiation to his chest. Several other wedding attendees were suffering from apparent altitude sickness and he attributed his symptoms to this as well versus a muscle strain. His headaches have been severe (9/10) at times. His symptoms did not improve with return to Denver or, on 5/12, to Boston. In the ED he again had an acute episode of back pain with radiation to the chest. He became febrile in the ED as noted below.

He specifically denies palpitations, "tearing" chest pain, recent immobility, calf/leg pain or swelling, any neurological symptoms, sick contacts with similar symptoms. He has never had pain like this before. He is up to date on all immunizations. He has never had mononucleosis. He has no known tick exposure.

ED COURSE:
VS on presentation: 98.2 | 96 | 137/76 | 18 | 100 on RA | 4/10
Exam notable for: Mild L trapezius ttp.
Labs notable for: troponin elevation, LFT elevation
EKG: Normal sinus rhythm. ste c/w repol, pr depression, LAFB
Imaging notable for: unremarkable CXR, unremarkable bedside TTE
Medications of note: ASA325, heparin gtt (D/Ced), tylenol
Consults: Cardiology
Vitals prior to transfer: 101.8 | 97.2 | 78 | 110/62 | 18 | 97 on RA

REVIEW OF SYSTEMS: Benign except as above.

CARDIAC HISTORY:
None

OTHER PAST MEDICAL HISTORY:
No significant PMH

FAMILY HISTORY:
Grandfather died of SCD in his 40s when out hunting, possible MI.

[redacted]

Partners HealthCare System, Inc.
MASSACHUSETTS GENERAL HOSPITAL
A Teaching Affiliate of Harvard Medical School
55 Fruit Street, Boston, Massachusetts 02114

[redacted]

Notes from 5/1/2015 through 5/16/2015 (cont)

[redacted]

Status: Preliminary
Visit Date 05/12/2015

PRE-ADMISSION MEDICATIONS (confirmed with patient):
None

ALLERGIES & INTOLERANCES:
NKA

PHYSICAL EXAM:
Vitals: Temp: 98.4 HR: 71 BP: 122/63 RR: Sat: 98% on RA
GEN: Uncomfortable appearing
HEENT: MMM. Anicteric. Mild pharyngeal erythema
PULM: WOB WNL. CTAB w/o W/R/R.
CV: RRR. S1S2 WNL. No M/R/G. JVP WNL
ABD: S, ND, NT.
EXT: WWP. No edema. 2+ pulses. No rashes.
NEURO: AAOx3. No focal deficits. No photophobia. No nuchal rigidity.

LABS/STUDIES/MICRO:

	05/12/15 07:25	05/12/15 01:03	05/11/15 21:40	05/11/15 21:40	05/11/15 21:40	05/11/15 21:40
NA						134(L)
K						3.6
CL						96(L)
CO2						27
BUN						9
CRE						1.09
EGFR						>60(T)
GLU						109
ANION						11
CA						9.1
PHOS						1.6(L)
MG						2.5(H)
TBILI						1.5(H)
DBILI						0.3
TP						7.5
ALB						4.4
GLOB						3.1
ALT-U/L						26
AST						124(H)
ALKP						97
NT-BNP					2310(HT)	
CK				525(H)		
CK-MB		20.2(H)				
TROP-T	1.36(HT)	1.32(HT)				1.50(HT)
WBC						7.44
RBC						4.95
HGB						15.0
HCT						44.7
MCV						90.3
MCH						30.3
MCHC						33.6
PLT						140(L)
MPV						10.9
RDW						12.6
METHOD						Auto
%NEUT						84.9(H)
%LYMPH						9.1(L)
%MONO						5.8
%EOS						0.0
%BASO						0.1
NRBC%						0.00
ANEUT						6.31
ALYMP						0.68(L)
AMONS						0.43

Partners HealthCare System, Inc.
MASSACHUSETTS GENERAL HOSPITAL
A Teaching Affiliate of Harvard Medical School
55 Fruit Street, Boston, Massachusetts 02114

[redacted]

Notes from 5/1/2015 through 5/16/2015 (cont)

[redacted]

Status: Preliminary
Visit Date: 05/12/2015

AEOSN		0.00
ABASOP		0.01
NRBC-ABS		0.00
ESR	26(HT)	
CRP-MG/L	190.2(T)	
PT		14.7(H)
PT-INR		1.2(H)

IMAGING:
Type: Chest Single View
Date/Time: 05/11/2015 22:42
IMPRESSION:
Low lung volumes with findings suggestive of pulmonary edema or atypical pneumonia.

Enlarged cardiac silhouette of uncertain etiology.

CARDIAC STUDIES:
Type: Cardiac Ultrasound - TTE
Date: 05/12/2015 00:56
LVEF 57%. No atrial dilatation. No valvular pathology. No pericardial effusion. No WMAs.

ECG:
Rate: 71
Rhythm: NSR
Axis: Normal
Intervals: PR 168, QRS 96, QTc 406
Chambers: unremarkable.
TWI in II, III, aVF, V5, V6. Sub-mm STE in V3-V5.

ASSESSMENT & PLAN:
38M w/ no significant PMH, p/w apparent myopericarditis in the setting of syndrome of fever, myalgias, headache, hepatitis, diarrhea c/f viral vs. atypical infection.

Chest pain and febrile syndrome
- Presentation is most concerning for myocarditis arising the context of a systemic infectious syndrome causing high fever, fatigue, malaise, headache, diarrhea, myalgias, LFT abnormalities, and possible BM suppression (lymphopenia, thrombocytopenia). Overall the presentation is most concerning for a viral etiology, but other possibilities would include Rickettsial disease or other atypical bacterial pathogens. He does not have a rash but the presentation is certainly consistent with RMSF otherwise. Less likely would be an autoimmune presentation of some kind.

Dx:
- Appreciate ID consult (case discussed briefly with fellow [redacted])
- ANA, HIV, hepatitis serologies
- Rickettsial serologies
- Peripheral blood smear, LDH
- Repeat troponin in AM
- Cardiac MRI in AM
- Defer LP for now, would have low threshold for worsening headache or clinical c/o meningitis
- Daily ECGs to monitor for conduction system disease (had a LAFB in ED)

Tx:
- Colchicine 0.6mg QD
- Ibuprofen 400mg Q6H PRN (this has provided relief in ED)
- Doxycycline 100mg BID for now (empiric atypical coverage)
- Tylenol for fever control
- Ginger IVF resuscitation given cardiomegaly and elevated BNP on admission

Prophylaxis
GI: None
DVT: QD LMWH
BOWEL: senna, colace, PRN miralax

SDU bundle
- Monitoring: telemetry
- T/L/D: PIV
- Diet: Regular