07/09/21 Morning Report with @CPSolvers

***Case Presenter**: Rafael Medina (@Rafameed) **Case Discussants**: Reza Manesh (@DxRxEdu) and Rabih Geha(@rabihmgeha)*

CC: bilateral lower extremity cramping and fevers.

HPI: 40 year-old male with 2 days of bilateral lower extremity cramping and fevers.
The pain was described as cramping and behind the knees. He noticed the pain while doing groundwork on a warm day. The symptoms were followed by chills and fever.
He also recalls a similar episode of leg pain 15 years prior, for which he never sought medical care. He developed mild intermittent abdominal cramping and an episode of non bloody vomiting prior to arrival.

PMH:
Well controlled HIV
Sickle cell trait

Meds:
Abacavir
Dolutegravir
Lamivudine

Fam Hx: unknown.

Soc Hx: farmer worker until 1 year ago

Health-Related Behaviors:
Occasional marijuana use
Works on landscaping
Previous smoker

Vitals: **T**: 104 **F HR**: 103 **BP**: 121x67 **RR**: 20 **SpO_2**: 92% r.a.
Exam:
Gen: conversational, comfortable
HEENT: no conjunctival injection or drainage, moist membranes
CV: normal.
Pulm: normal.
Abd: soft, nontender, nondistended
Extremities/Skin: no edema
MSK: normal range of motion, no tenderness, no swollen in lower extremities (normal exam).

Notable Labs & Imaging:
Hematology:
WBC: 11,2 k (N predominant) Hgb: 15 Plt: 77k
Chemistry:
Na: 130 K: 3.3 Cl: 95 CO2: 24 BUN: 17 Cr: 1,66 (unknown baseline) glucose: 109 AG 13
ALP: 54 AST: 51 ALT: 12 1.3
CK: 2770 Lactate 2.5 (elevated) ESR: 56
Myositis panel negative. ANA negative. Respiratory viral panel negative (including Influenza). COVID-19 negative. Strep pneumonia negative.
Imaging:
CXR: right middle lobe pneumonia.
Urinary Legionella antigen: positive.

Final diagnosis: Legionella infection.

He was admitted to the hospital, and despite IV crystal fluids, CK continued to increase (peaking in 8046) and fever persisted. After final diagnosis, he was started on azithromycin, and CK and fever decreased.

Problem Representation: young male with a history of sickle cell disease and well controlled HIV presents with lower limb pain, abdominal pain, and fevers, who is found to have increased creatinine and CK and decreased sodium levels.

Teaching Points (Gabriela F. Pucci):

- Fever is a marker of inflammation. Differentiate it from increased body temperature (e.g., exposition to heat). **IMADE:** Infection, Malignancy, Autoimmunity, Drugs, Endocrinopathy.
- Legs: skin, neuromuscular compartment (including fascia), osteoarticular, and vascular.
  - Skin: rash usually present. Cellulitis, necrotizing fasciitis -> usually unilateral.
  - Vessel: vasculitis versus vasculopathy (fever=vasculitis).
- Regarding the PMH: Sickle cell disease: vaso-occlusive crisis usually is not associated with fever. HIV: increased risk of opportunistic infections and malignancies.
- Normal leg exam with pain: think about myositis and fasciitis.
- **3 types of necrotizing fasciitis:** type 1: polymicrobial, stars on fascia, pain out of proportion on exam 2: monomicrobial, 3: Clostridium infection.
- **Thrombocytopenia without anemia**: destructive causes (instead of bone marrow problem) -> antibody or infection mediated destruction
- **Infection mediated platelet destruction**: 4 bacterial infections: Tick-borne, Leptospirosis, Salmonella and Bartonella
- AST is elevated in diseases that increase muscle cell turnover
- Inflammatory myopathies: apply IMADE mnemonic to find the cause.
- **Tick-borne diseases that involve the lungs: : Tularemia (skin form or pneumonic form or typhoidal form) and Legionella.**
- Clues for Legionella pneumonia: GI symptoms, hiponatremia, relative bradycardia, elevated AST and ALT, failure to improve after beta lactam therapy.