Thieves Market

Bianca Mulaikal, DO

Haley Probst, MD

Case 1:

55 year old man presenting with thigh pain…

Initial Presentation

- 36 hour history of left lateral thigh pain
  - Prior to pain starting:
    - He had taken his dog for a 1 mile walk
    - Upon returning home, he rested on the couch with his dog who jumped up on his lap
  - Difficulty with ambulation due to 10/10 pain
  - Pain unresponsive to OTC analgesics and oxycodone left over from a prior script
- ROS
  - Denies fever, chills, overlying skin changes or rash, joint pain, trauma, falls.
  - Denies recent medication changes

Exam Findings

BP 103/69 HR 100 RR 18 Temp 97.9F

- Gen: Middle age male veteran, appears distressed
- Cardiac: Regular rate and rhythm. No murmur appreciated
- Respiratory: Lungs clear to anterior and posterior auscultation bilaterally
- Abdominal: Bowel sounds present. Soft, non-tender, non-distended.
- MSK: Left lateral thigh with notable swelling. No overlying skin changes or erythema. Warm to touch. Exquisitely tender to light palpation. ROM of hip and knee deferred due to uncontrolled pain. Sensation to light touch intact in bilateral lower extremities. Palpable pedal pulses bilaterally.

More History!

Past Medical History:

- Major Depressive Disorder
- Generalized Anxiety Disorder
- Post Traumatic Stress Disorder
- Coronary Artery Disease s/p 3 vessel CABG
- Hyperlipidemia
- Hx of Cerebral Vascular Accident
- Type 2 Diabetes
- Remote Tobacco Use Disorder, quit 1990s

Medications:

- Sertraline
- Aspirin
- Plavix
- Rosuvastatin
- Carvedilol
- Lisinopril
- Semaglutide
- Glargine Insulin

What are you worried about?

Differential Diagnosis Myalgia

Statin Induced

Muscle Strain/Tear

Dermatomyositis/
Polymyositis

Trauma

Somatization

Infection

Myofascial Pain
Syndrome

Polymyalgia
Rheumatica

Compartment
Syndrome

Differential Diagnosis Myalgia

Localized

- Muscle Strain/Tear
- Trauma
- Myofascial Pain Syndrome
- Infarct/Compartment Syndrome
- Infection

Generalized

- Statin Induced
- Infection
- Dermatomyositis/ Polymyositis
- Polymyalgia Rheumatica
- Somatization

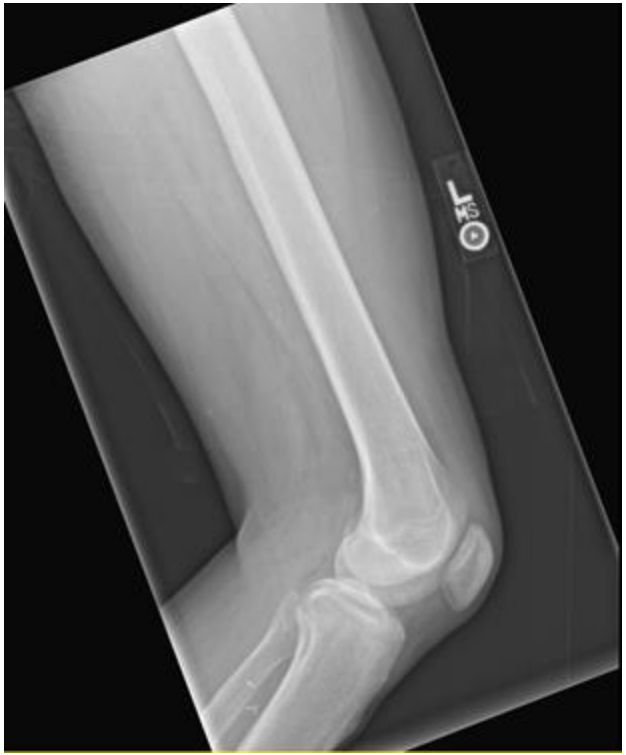
Labs

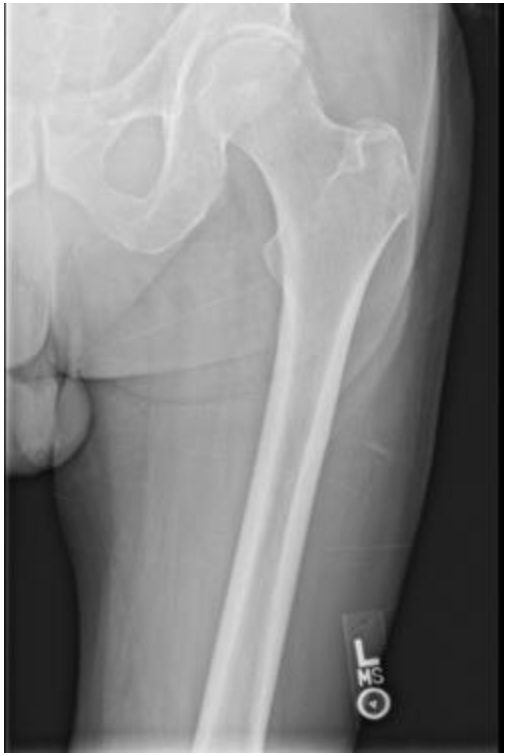
- WBC 12.4, Hb 16.0, PLT 219
- Na 135, K 4.1, Bicarb 24, Cl 101, BUN 8, Creatinine 0.59 Glucose 289
- AST 19, ALT 7, Alk Phos 79, Tbili 1.3

- CK 36 → 27
- CRP 7.99, ESR 15
- Lactate 2.1 → 1.6

Let’s Play Radiologist

Left Femur Radiographs





Ultrasound

Impression: Abnormal appearance of the left thigh vastus lateralis muscle, would be compatible with significant muscular contusion/strain if correlated with a history of substantial trauma.

With this information, how confident are you that you know the diagnosis?

MRI Imaging

Ortho Consult

Unlikely to represent the necrotizing fasciitis…

Localized

- ~~Muscle Strain/Tear~~
- ~~Trauma~~
- ~~Myofascial Pain Syndrome~~
- Infarct/Compartment Syndrome
- ~~Infection~~

Why?

A1c 13.6

Patient endorses a needle phobia, only compliant with his once weekly semaglutide

Diabetic Muscle Infarction

Diabetic Muscle Infarction

- Rare but likely underdiagnosed
- Pathogenesis unknown
- 55% of cases are anterior thigh, 15% posterior thigh, and 15% calf
- Normal CK, Elevated ESR/CRP, and A1c >9.0
- Imaging of Choice - MRI
- Treatment: Aspirin, Physical Therapy, Appropriate Glycemic Control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Case 2

18 year old boy with no prior history transferred to tertiary center ICU due to prolonged epistaxis, otherwise hemodynamically stable

Reason For Transfer

Labs:

- CBC w/ diff- pancytopenia- wbc 2.8 w/ ANC in the 100s, 65% lymphocytes, macrocytic anemia to 2.4, and thrombocytopenia to 36
- CMP- no electrolyte abnormalities, Cr 0.9, liver function tests very mildly elevated at ALT 43, AST 64. Alk phos low at 38. INR mildly elevated at 1.3, PT13.5, aPTT WNL, direct Coombs negative
- CT Chest/abdomen- splenomegaly, maybe some cardiomegaly, no LAD

History

Initial Presentation:

- Reports epistaxis for 2+ hours
  - Denies trauma
  - “Months” of intermittent epistaxis with spontaneous resolution within a half hour

ROS:

- **Night sweats and 20lb weight loss over the last 2-3 months**
- Intermittent postprandial abdominal pain, nausea, vomiting

What are you most concerned about?

That was obvious

Hemepath reviewed: No peripheral blasts noted


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Social History

- Originally from Chiapas, Mexico. Immigrated to the US approx 1 year ago
- Lives with brother and 5 other extended family members. None of which are children
- No recent sick contact
- Was working as a landscaper- not much gardening, no injuries while working
- Reports variety in diet- eats a lot of tortillas, steak, veggies, seafood. Generally has a good appetite
- In Mexico, was living with immediate family, lived near the coast and would eat seafood, usually cooked. No exposure to farm animals
- No pets at home
- No vaccination history, reports possible childhood vaccines

Pancytopenia

Marrow Failure

Immune Destruction

Aplastic anemia/PNH, SLE/RA, HLH, meds

Marrow Suppression

HIV/EBV/CMV, parvovirus, ticks, sepsis, meds, hypothyroid, alcohol

Nutritional

B12/folate, copper

Peripheral Process

SLE/RA, Ticks, CLL, splenomegaly

Marrow Filtration

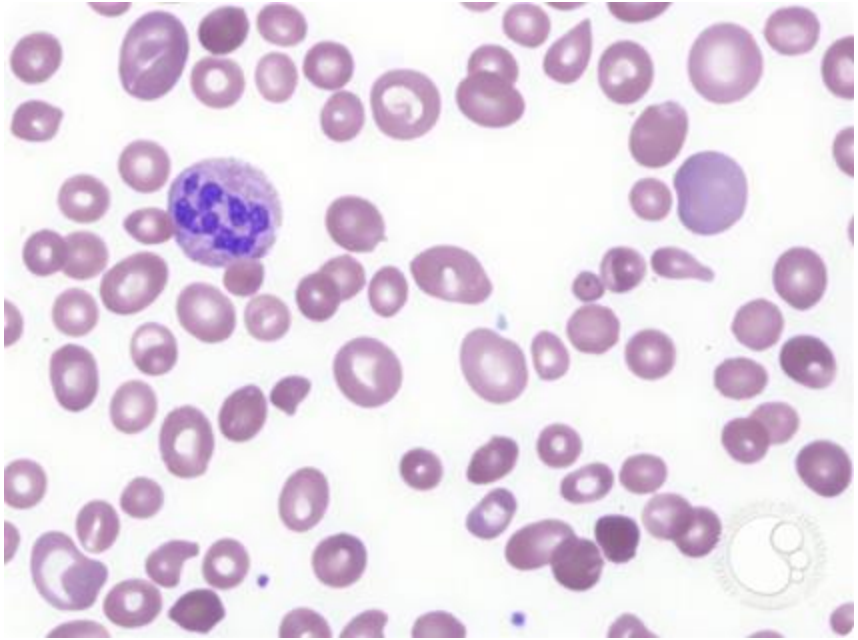
Malignant

Leukemia
Lymphoma
MDS
Myelofibrosis
Plasma cell dyscrasia
Metastasis

Non-malignant

Sarcoidosis
Intracellular pathogens
Granulomatous infections
Gaucher disease

What is that?



More Labs!

- **DIC Panel:**
  - mildly elevated PT/PTT, normal fibrinogen
- **Hemolysis:**
  - Elevated LDH, haptoglobin <10, reticulocyte 0.047
- **Nutrition:**
  - B12 <150, folate normal
- **Iron panel:**
  - normal Iron, low TIBC, mildly elevated ferritin
- **Infectious workup:**
  - Negative extended respiratory NAAT, other cultures/labs pending

B12 Differential

Pernicious Anemia	Inadequate Dietary Intake	Food Cobalamin Malabsorption	Malabsorption of the small bowel
• Anti-intrinsic factor • Antiparietal cell	• Vegan • Strict vegetarians	• Bariatric surgery • Gastritis • H. Pylori • Meds	• Pancreatic insufficiency • Inflammation or surgery • Fish tapeworms

Not so Benign B12

B12 Deficiency Sequelae

- **Marrow suppression:**
  - Macrocytosis, hypersegmented neutrophils, leukopenia, thrombocytopenia, and very rarely- pancytopenia (5% of the time)
- **Hemolysis:**
  - Intramedullary destruction (1.5% of the time)
  - Extramedullary destruction related to antibodies
  - High levels of homocysteine leading to endothelial dysfunction and lysis
- **Myeloneuropathy**
  - Demyelination of dorsal and lateral columns

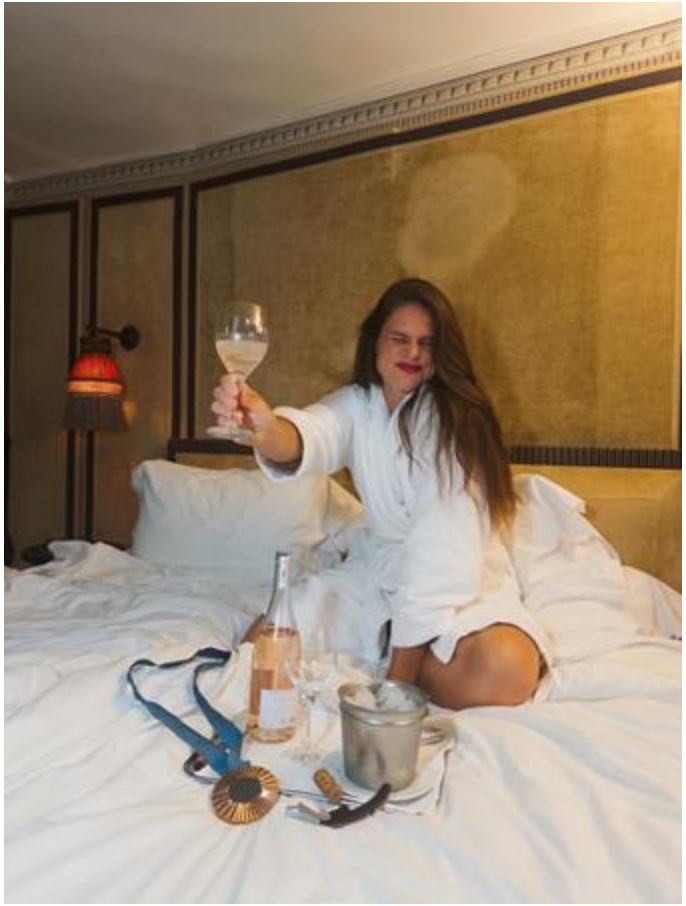
Back to the patient

BMBx differed, started on B12 repletion

Metabolic/nutritional w/u- **Elevated gastrin and positive parietal Ab IgG**

Extensive infectious and hematologic workup unremarkable

EGD showed generalized erythema and loss of gastric folds, biopsy shows chronic gastritis with focal intestinal metaplasia consistent with **autoimmune gastritis**



Autoimmune Metaplastic Atrophic Gastritis

The most common form of chronic gastritis without H. pylori infection

Characterization:

- *Antibodies to parietal cells and/or intrinsic factor*
- *Antral endocrine cell hyperplasia*
- *Vitamin B12 deficiency*
- *Defective Gastric acid secretion*

2019 ESGE guidelines recommend endoscopic follow up every 3-5 years due to increased risk for gastric adenocarcinoma and neuroendocrine tumors

After aggressive B12 repletion, the patient felt just fine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OLYMPIC TEAM