50 year old lady with painful mass in thigh

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Disclosures

- No conflict of interests to report.

History of presenting Illness

- 50 year old African American lady presented with pain and tenderness over right thigh for 3 weeks.
- Initially seen at another facility
- Underwent imaging with magnetic resonance imaging of the right thigh which showed mass - unknown period of time.

- Initially evaluated by orthopedics and general surgery.
- No reports of fevers
- No history of increased weight loss, chest pain, or shortness of breath.
- No long distance travel.
- No history of long standing trauma.

- Underwent biopsy of mass.

- Past Medical History:
- Hypertension
- Small bowel obstruction s/p exploratory laparotomy

- Social History:
- Not a known smoker
- No history of alcohol abuse
- No history of illicit drug use.

- Family History:
- No history of autoimmune disorders, sickle cell disease.

- Initially discharged home with outpatient follow up with orthopedics and surgery.

- Patient readmitted 2 weeks later with increasing pain in bilateral lower extremities and inability to walk.
- No fever at the time of admission. No recent trauma in the intervening period.

- Neurology consulted.

Examination:

- ✴ Vitals - BP: 161/87, pulse: 65/min, Temp: 98.8 F
- ✴ Systemic Examination -
- HEENT: Atraumatic normocephalic. Mild pallor noted, no icterus
- Respiratory: Normal breaths sound auscultated in all lung fields
- Cardiovascular: S1, S2 hear, no murmurs
- Abdominal: No tenderness to palpation, no organomegaly
- Lymphatic: No lymphadenopathy palpated

- Extremities: **Exquisitely tender to palpation, right medial midshaft thigh soft tissue mass 10 cm x 4 cm in size. Fixed to muscle, no induration noted.** 2+ Diffuse edema from this point distal to the foot in right lower extremity. No erythema or skin changes. 1+ edema over left lower extremity. Distal pulses palpable.

- Neurological:
- Cranial nerves intact II through to XII
- Motor: Tone normal with strength 4+/5 diffusely.
- Sensory: reduced to pin prick, and proprioception in bilateral lower extremities, symmetrically, in a stocking fashion
- Reflexes: 1/4 over biceps bilaterally, 1/4 over triceps bilaterally, knees trace bilaterally, trace ankle bilaterally, planters downing bilaterally.
- Cerebellar: Finger nose finger normal.

Labs:

- CBC: WBC 9.8, Hgb 6.7.
- Cr 1.44, Glucose 359.
- CRP: 6.20
- ESR: 96.0

- CK: 521
- Aldolase: 11.4
- ANA, Anti Hep-2 substrate Ab, Myopathy panel: Negative

Inflammatory:

- Abscess
- Necrotizing fasciitis
- Infective myositis
- Inflammatory myositis
- Pyomyositis
- Sarcoidosis
- Myonecrosis
- Lymphedema

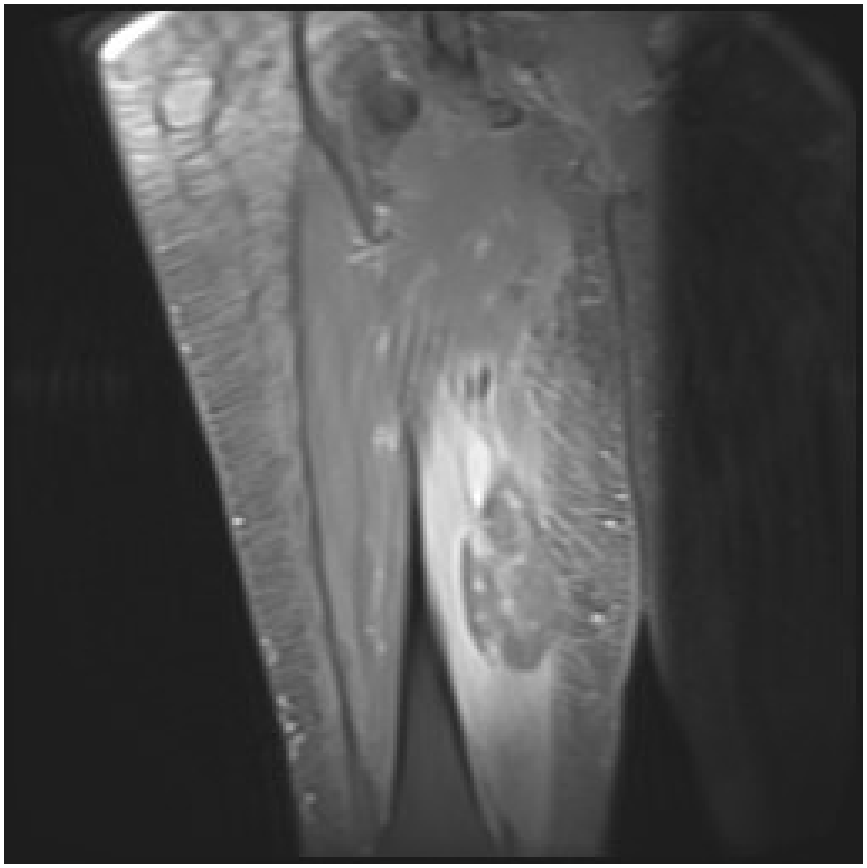
Neoplastic:

Lipoma
Liposarcoma
Rhabdomyosarcoma
Leiomyosarcoma
Metastases

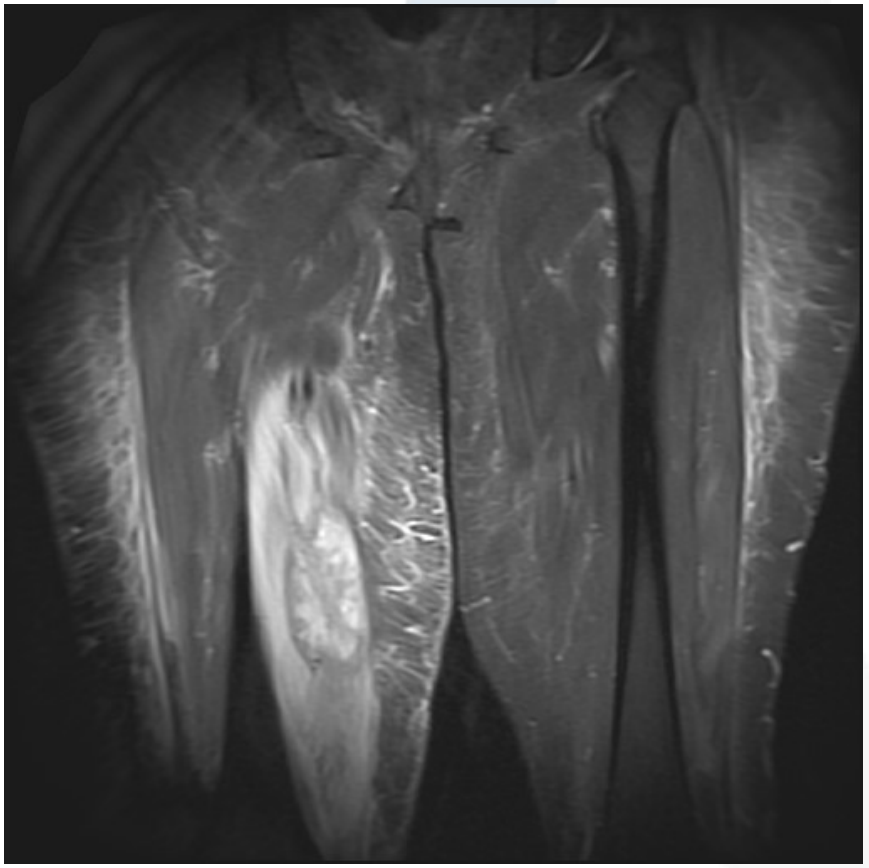
Miscellaneous:

- Myositis ossificans
- Trauma/hematoma
- Post radiation necrosis
- Sickle cell disease

MR of right femur:



Coronal T1 fat sat



Coronal STIR

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MRIs of skeletal muscles…

Edema pattern:

Acute muscle injury

LOW to intermediate T1

High T2 and STIR signal

Seen in:

Acute Myositis

Rhabdomyositis

Vascular insults

Early denervation

Compartment syndrome

Fatty/infiltrative pattern:

Chronic muscle insult

Fat signal intensity on both T1 AND T2

Muscle atrophy noted

Seen in:

Chronic disuse

Denervation

Muscular dystrophies

Chronic longstanding muscle trauma

Mass lesion pattern:

Space occupying lesion

Look for air fluid level

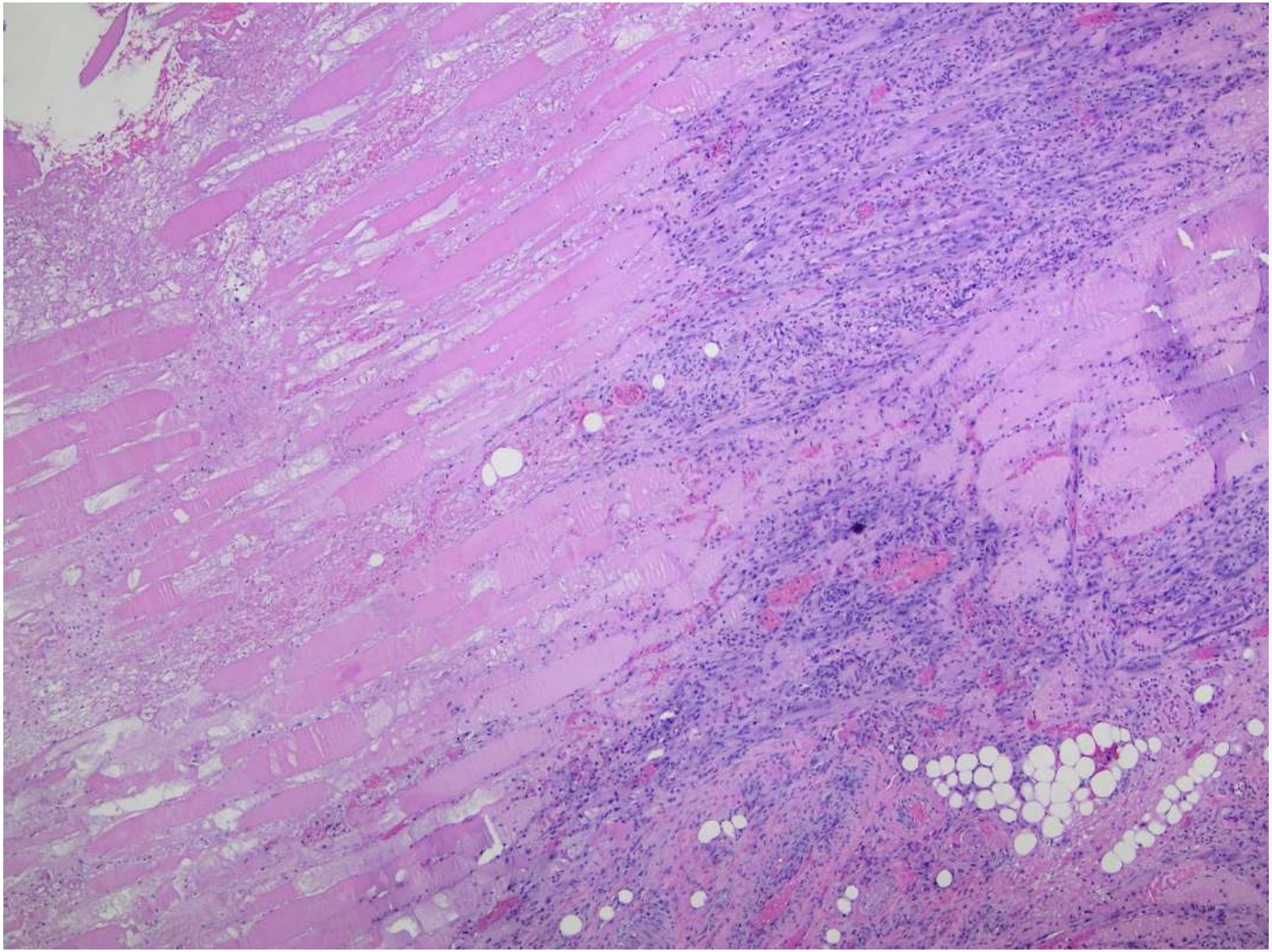
Increased T1 signal with methemoglobin, proteinaceous material and fat.

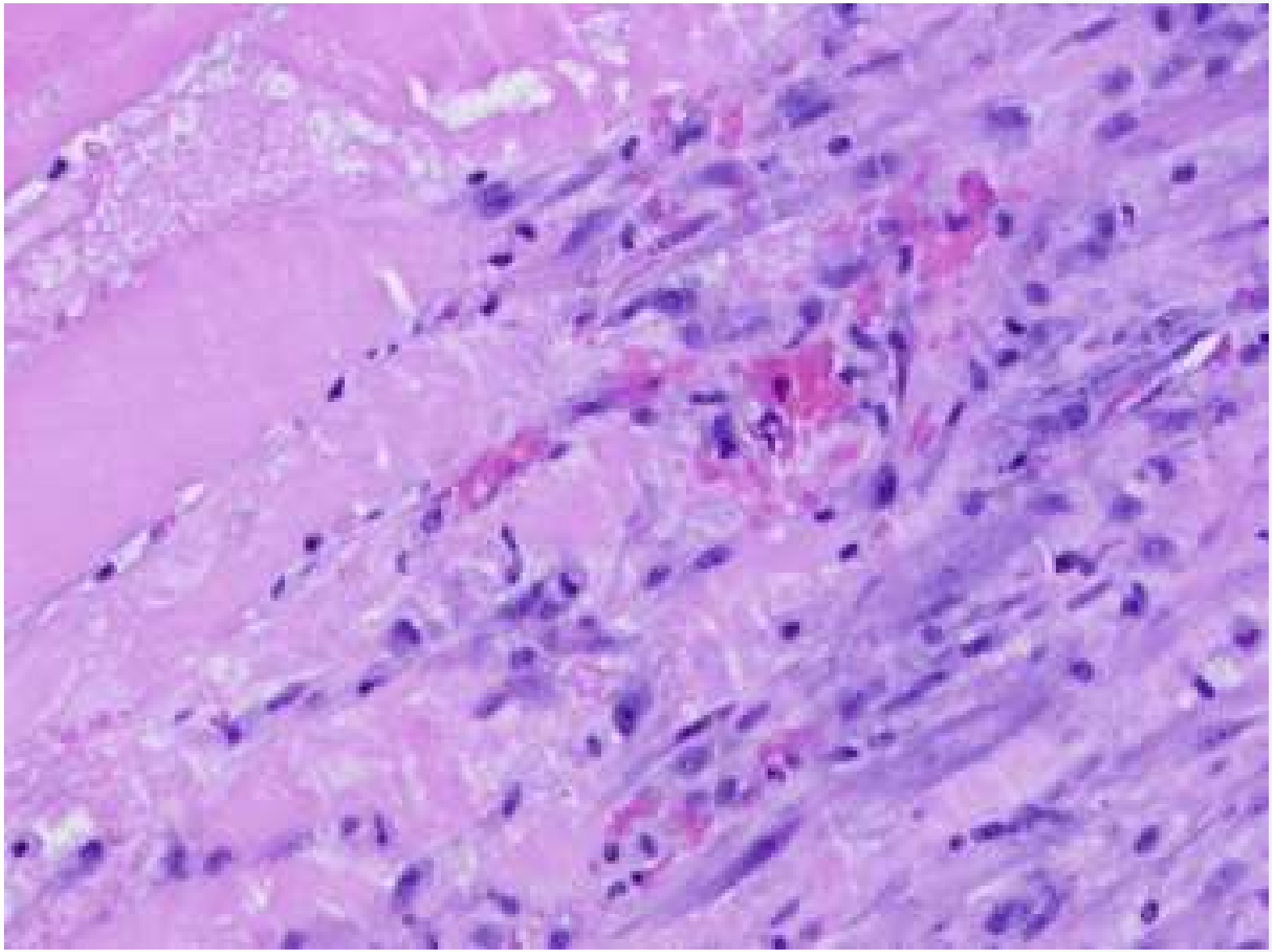
Enhancement pattern

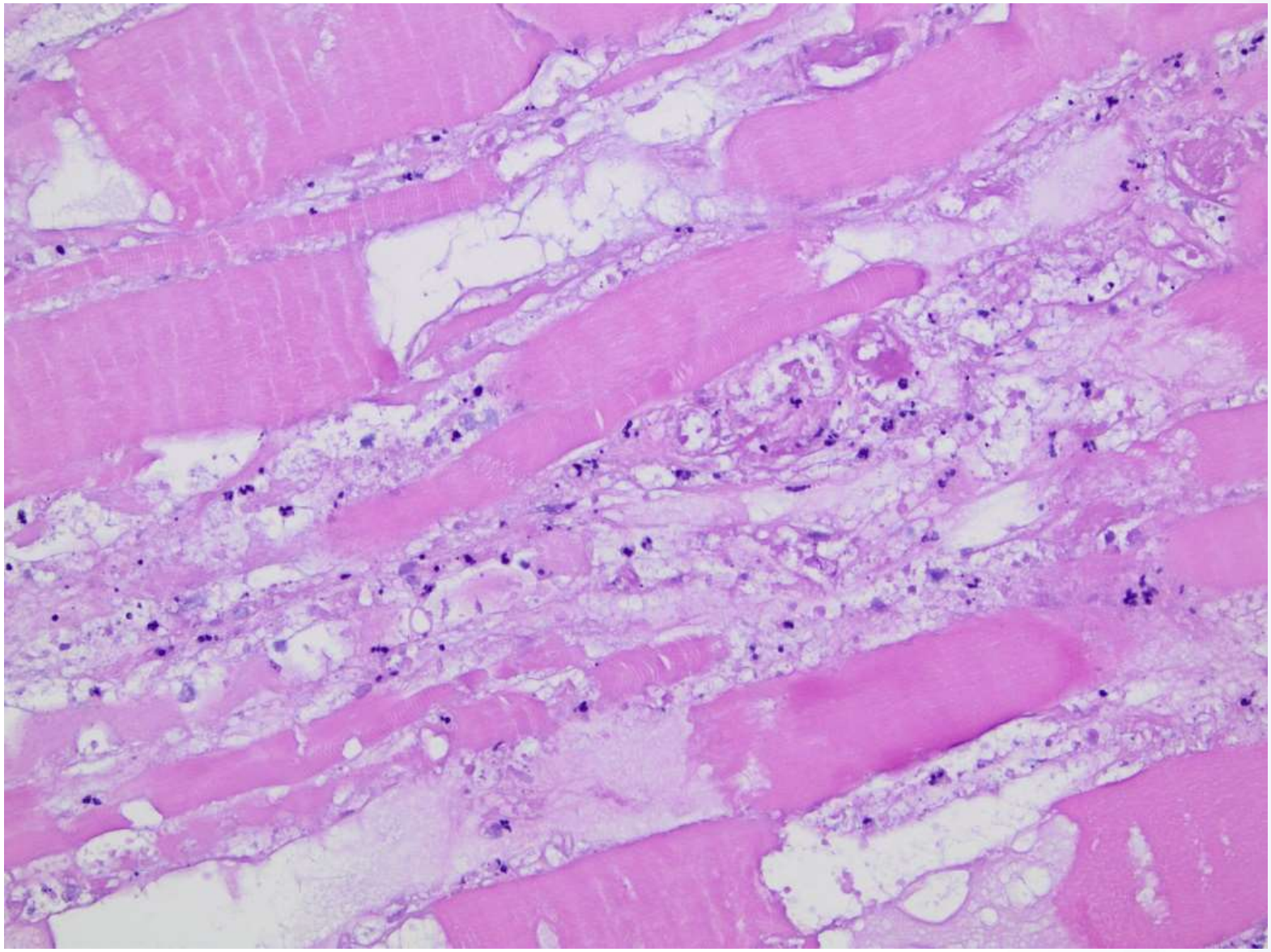
Correlate with underlying condition/ past insults.

Now..differentials??

- Leiomyosarcoma
- Rhabdomyosarcoma
- Hematoma
- Myonecrosis
- Focal myositis
- Organized abscess







One more piece of information…

- DIABETES: A1C AT **16.5%**

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Diabetic Myonecrosis

- First described in 1965 by Angerval *et al*.
- Uncommon complication of uncontrolled diabetes.

- Unclear pathophysiology:

✓ Vasculitis with thrombosis

✓ Ischemic reperfusion injury of muscle

✓ Diabetic microangiopathy

✓ atherosclerosis

- Patients present with muscle pain and swelling.
- Usually in setting of poorly controlled diabetes
- More in insulin dependent patients
- Rarely may be the first symptom for undiagnosed diabetes
- Responds to rest and NSAIDS. Role of physical therapy controversial
- Recurrences common.

- Review of 126 reported cases by Horton *et al*.

- Younger age of onset in Type 1 DM as compared to Type II

- Mean age: 35.9 years for Type I diabetics

  Mean age: 52.2 years for Type II diabetics

- 67/126 reported CK; 68.4% normal range

- ESR in 60/126 reported; 83.3% reported increased

- CRP: 30 patients only; but 27 reported elevation

- Patient receiving physical therapy had longest time to symptom resolution at a mean 76.5 days vs bed rest at 41.7 days.
- Lowest for patients receiving bed rest + NSAIDs at 28.5 days.
- Recurrence rates lowest for those receiving NSAIDs
- Patients receiving surgery have poorer outcome.

- MRI with gadolinium sensitive and specific enough for diagnosis.
- May precede clinical symptoms by upto 6 months at times.

- Biopsy though definitive, appears to be associated with increased time to recovery.
- IF necessary, incisional or needle biopsy preferable.

Back to the patient…

- Improved slowly with NSAID therapy and rest.
- However, as of the last visit, continues to ambulate with a cane.

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Questions??

THANK YOU!!